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RUSH SHIPPEN HUIDEKOPER, Veterinarian (Alfort),

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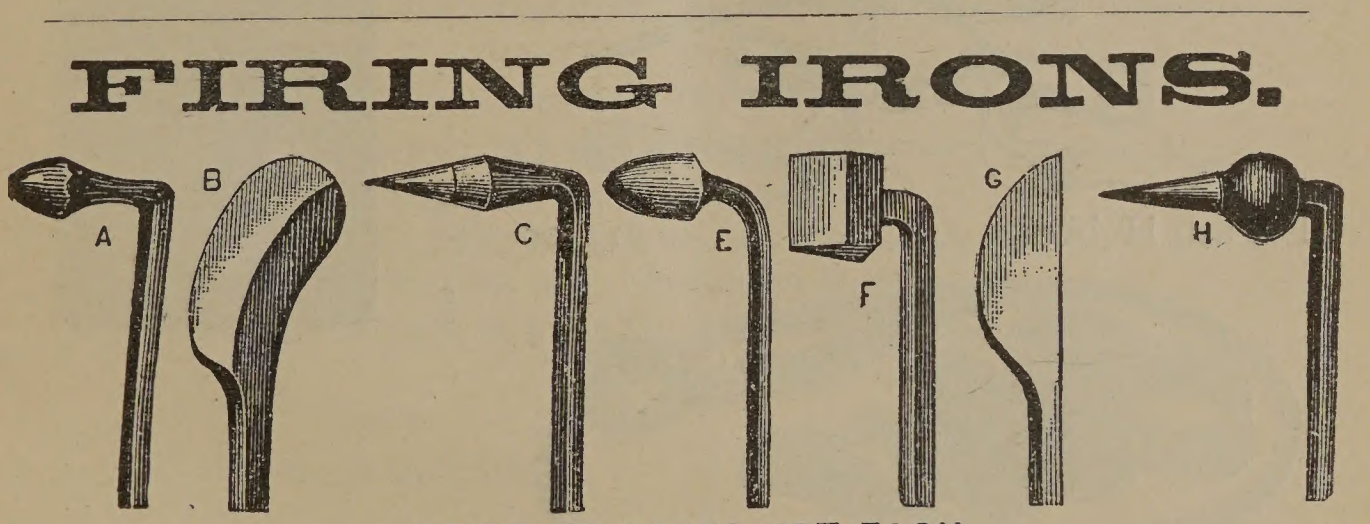

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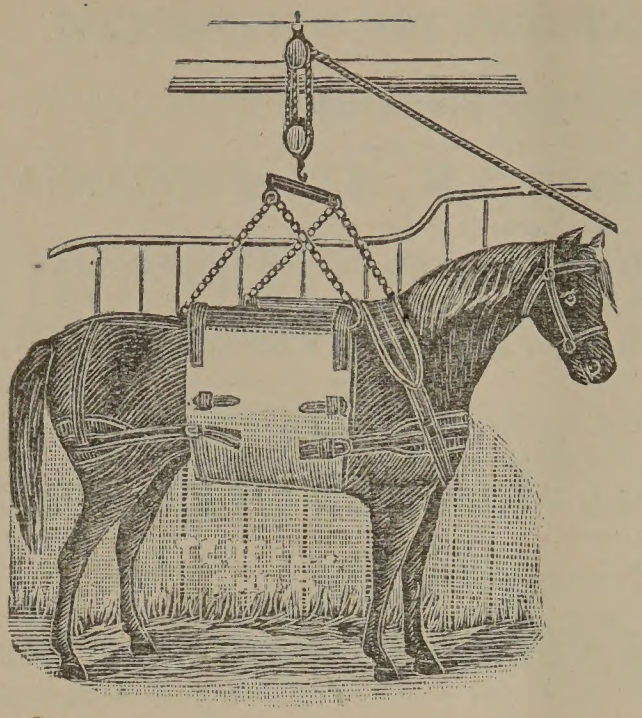

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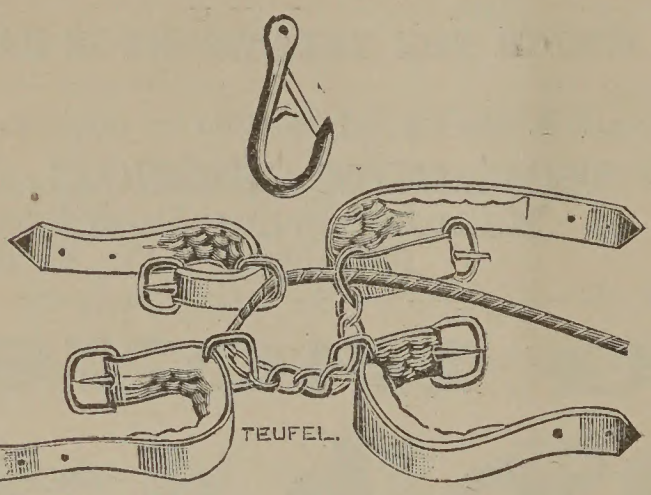

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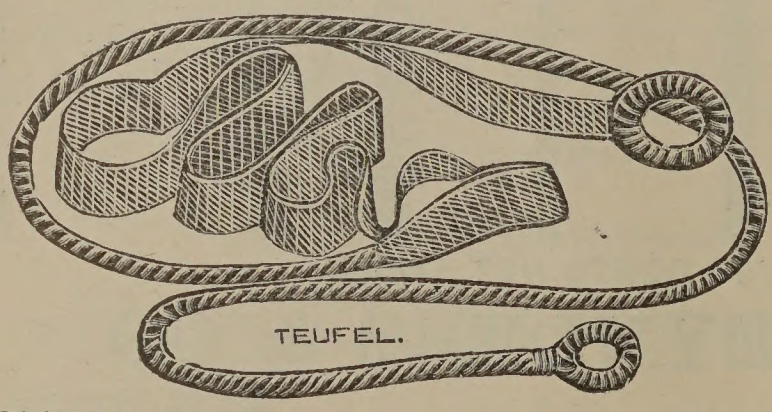

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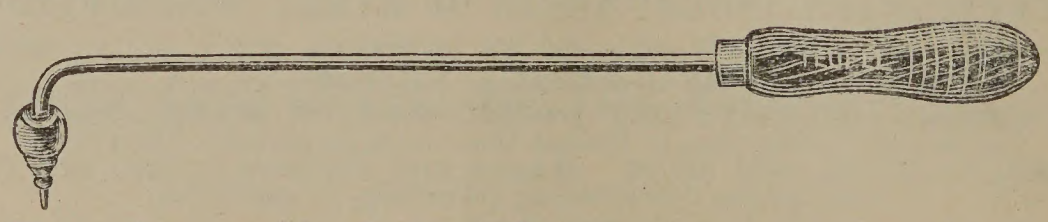

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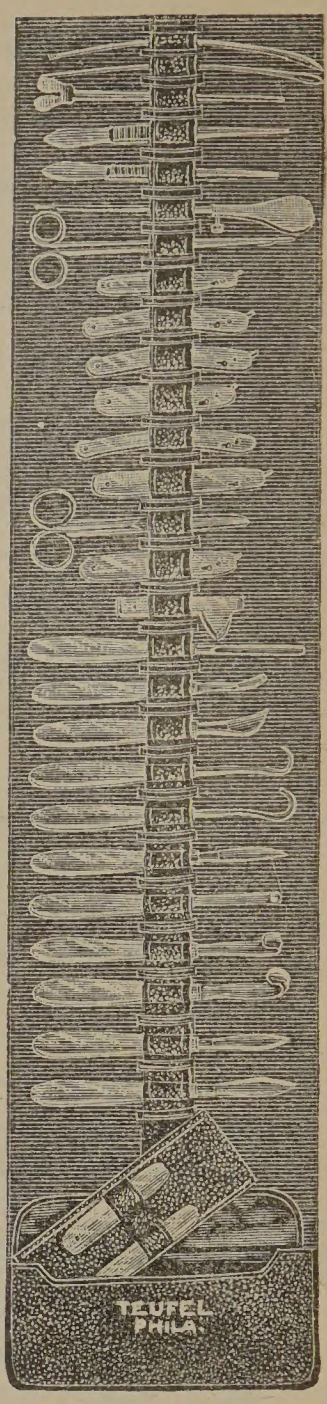

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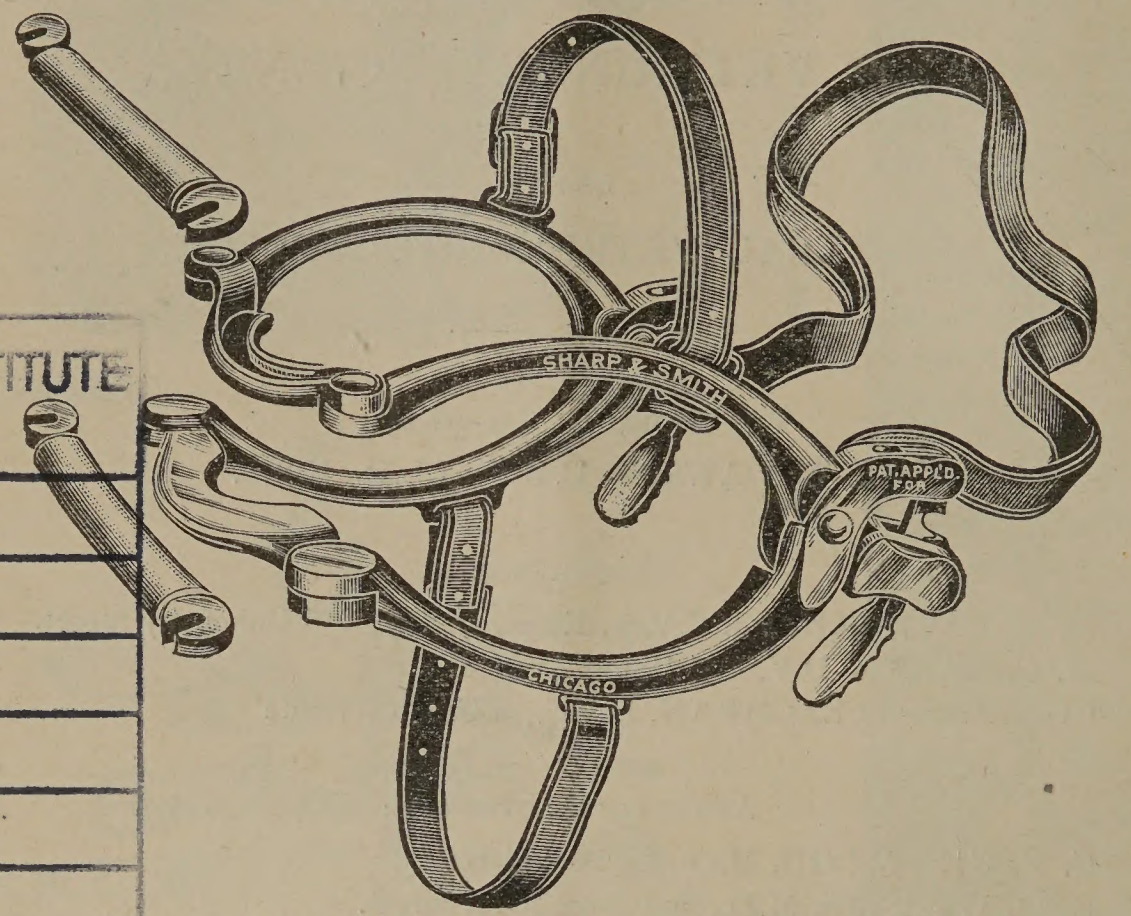

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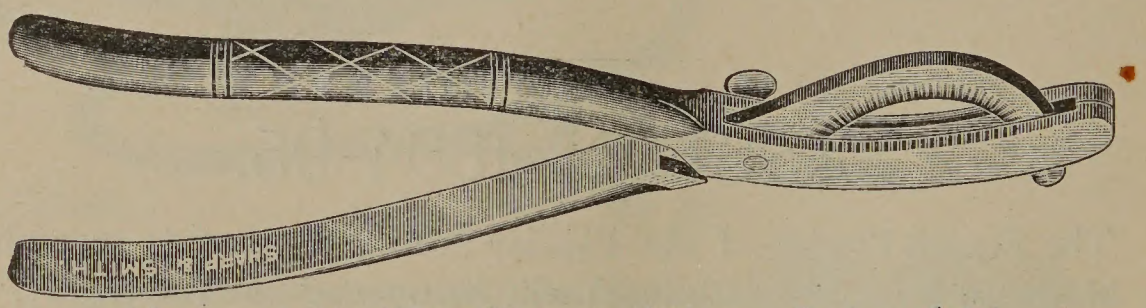

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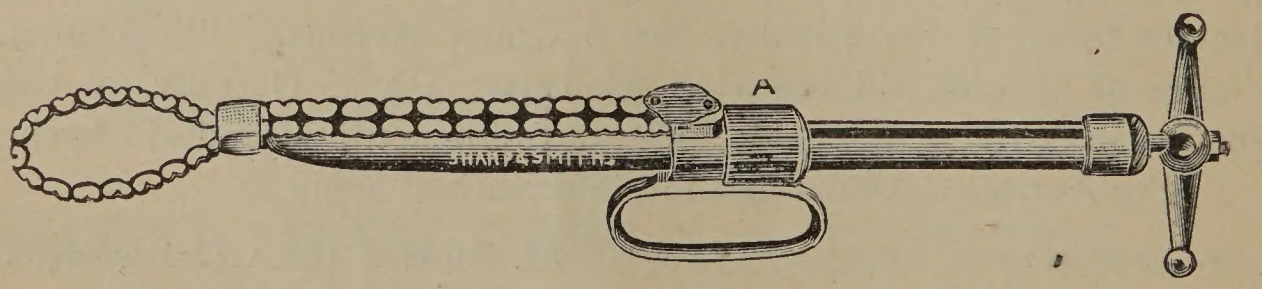

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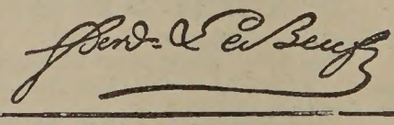

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HORSEFLESH FOR OUR FOOD.

BY RUSH SHIPPEN HUIDEKOPER, M.D.

HORSEFLESH as an article of food for man is so limited among the English-speaking nations that its very proposal seems to raise a sentiment of repugnance in a great many people which it is difficult to account for.

This feeling appears to be based upon the insular English prejudice against anything which is new or has not been the custom, a characteristic prejudice which is hereditary in the Canadian, American, Australian, and Anglo-Indian of Asia. Upon argument, the objector invariably acknowledges that no reason guides his feelings, but that he has a prejudice against horseflesh.

Among the first evidences of early man, in the dolmans of North Germany, the caves of the Troglodytes of Belgium, France, and Great Britain, there are frequent traces of the bones of the horse among the débris of other animals which were used for food, long before there are traces of the remains of cattle, sheep, or pigs.

In the caves of the early quaternary period at Chatres, France; in the Valley of the Arno; at Aurignac; in the Kjokkcnmoeddings of Denmark; at Lourdes, in France, and in the great caves in England, mixed with the bones of early man, together with the primitive stone instruments which he

used for his early industries, are the bones of gigantic elephants, rhinoceri, great deer, great bear, some of the large cat tribes, and numerous bones of the horse.

These bones are invariably fragments of the long bones, which have been cracked, as they still show, by the stone hatchets, to obtain the marrow, and remnants of skulls, always broken for the extraction of the brain for food, or, perhaps, also for tanning hides, as is done by the Esquimaux of to-day. Throughout later periods in the quaternary down to historical times, the bony remains of the horse are found in connection with all evidences of civilized man, with marks indicating that they have been used for food.

In historical times the first mention of the use of horseflesh as food comes in the form of its interdiction, Leviticus, xi., 1–3, 7:

"And the Lord spake unto Moses and to Aaron, saying unto them,

"Speak unto the children of Israel, saying, These are the beasts which ye shall eat, among all the beasts that are on the earth.

"Whatsoever parteth the hoof, and is clovenfooted, and cheweth the cud, among the beasts that ye shall eat.

"And the swine, though he divide the hoof, and be clovenfooted, yet he cheweth not the cud; he is unclean to you."

It is absurd in the present century for any one to find support in the Mosaic laws for the non-consumption of horseflesh on the ground that the horse is not clovenfooted and cheweth not the cud, when man, woman, and child, with the exception of the most orthodox of Hebrews, eat ham, sausage, and pig in every form, absolutely ignoring the last verse of the quotation, which distinctly forbids it.

We find from the writing of Herodotus and Leo Africanus that the wild horse was hunted in the chase, and considered a great delicacy by the Arabs and nomadic tribes of Asia and North Africa. In the account of the expedition of the Czar Peter I. against Azof, the wild horse, which under the name of "tarpan" roved in numbers between latitude 30 and 50 degrees, was hunted and used for food by the Tartars, Mongolians, and Manchurians.

In the eighth century Pope Gregory III., and his successor, Zacharias I., sent letters to St. Boniface, the German Apostle, forbidding the use of horseflesh as being allied to ancient

religious practices, and therefore an obstacle to the propagation of Christianity. Notwithstanding the Papal edicts, we find that horseflesh was extensively used throughout Central Europe in the succeeding centuries and in the middle ages, and at times formed an important article of diet, but at times only, as domesticated cattle were then obtainable in larger numbers, and the horse has assumed greater value for war, for the chase, and for other sports.

Following the middle ages, for the same reason, the use of horseflesh for food was more limited, and was only practised in restricted localities and in time of war or famine. About the middle of the present century its use was made the subject of governmental investigation and control, as a matter of health, following the laws which had been but recently formulated regulating the inspection and supervision of the sale of beef.

In 1866 laws were passed by the French Government ordering that horses should only be killed in special slaughter-houses; that they should only be killed in the presence of a veterinarian or authorized inspector, who should verify the healthy condition of all of the viscera; that the meat should only be sold after being officially stamped, and that the meat should only be sold as horsemeat in shops which bore over the door a sign in large letters to that effect; the peddling of horseflesh was forbidden.

The first authorized shop for the sale of horsemeat was opened in Paris, July 9, 1866. In the remaining six months of that year there were sold for food 902 horses; in 1867, 2069 horses, 59 asses, and 24 mules; in 1868, 2297 horses, 97 asses, and 11 mules. In 1870 and 1871, during the period of the siege of Paris and the Commune, the consumption increased to 64,362 horses, 635 asses, and 3 mules, a total of 65,000, or about 24,000,000 pounds of dressed meat, averaging 384 pounds per horse.

In 1872 there were consumed 5034 horses, 675 asses, and 23 mules; in 1875, 6448 horses, 394 asses, and 23 mules; in 1878, 10,800 horses, 488 asses, and 31 mules, and since that time there has been a steady increase not only in Paris, but also in the other large towns of France. Since 1870 there has been an equally constant increase in the use of horsemeat for food in Brussels, Antwerp, Cologne, Berlin, and the larger German cities.

In 1882, upon the failure of one of the largest restaurants in

Berlin, in which the best of marketing was supposed to be sold, it was found that one of the largest creditors was a dealer in horsemeat, who had been supplying the restaurant for years with meat, which the restaurant served as beef.

The nutritive value of the meat of the horse is given by Leyder and Pyro, for a horse in moderate condition as follows:

	Neck.	Filet.	Thigh.
Water	75.02	76.00	75.22
Fixed matter	24.08	24.00	24.08
Muscular matter	22.85	21.76	23.26
Fat	0.95	1.24	0.52
Ash	1.00	1.00	1.00

In comparing this with the nutritive qualities of the flesh of beef in good condition, and of "piners" or "Bologna" cattle, it will be found that the fixed matter is poorer than in good beef, but richer than in poor beef. The amount of fat is approximately the same in a horse and an ox in the same condition.

Liebig found in 100 kilogrammes of horsemeat 72 grammes of creatine, and in 100 kilogrammes of beef 62 grammes of creatine, and he claimed for the horseflesh the greater nutritive value. A horse in fair condition, weighing 1000 pounds on the hoof, dressed 547½ pounds of meat with the larger bones, giving about the same percentage as that of fair beef.

The following is a comparison of the physical characters of the properly dressed meat of the horse and ox:

Ox	Horse.
Color—Bright red.	Color—Dark red.
Consistence—Firm, becoming soft and unctuous later.	Consistence—Firm and hard.
On Cutting—Easy, fine grain.	On Cutting—More resisting, coarser grain.
Odor—Fresh, somewhat aromatic	Odor—Slightly musky.
Fat—White or yellowish.	Fat—yellowish.

In reality the flesh of the horse differs but little from that of beef of equal quality. It has nothing disagreeable to the eye or to the taste. It makes a consomme rather less clear and bright than that of beef, and the meat loses rather more color in boiling; but after broiling or roasting, in which way horsemeat should always be cooked, it has no appearance by which it can be detected from beef. There is, perhaps, a slightly sweetish taste, which, however, is entirely overcome by the salt, pepper, and sauces which are usually eaten with roast meat,

The flesh of the ass and mule has a finer grain than that of the horse, and has a very slight "gamy" taste, which, however, is scarcely to be distinguished from a prime rump steak.

The celebrated "Bologna" sausage, when properly made, as it originally was in Italy, is made from donkey's meat only. The majority of that in the market to-day is made from the poorest grades of beef, mixed with other cheap meats, pork, etc.

Baron Larrey, the celebrated surgeon of Napoleon I., was an enthusiast on the merits of horseflesh, and his belief in its advantages was probably strengthened by the service which it rendered in feeding the troops of Napoleon's armies. The great savant, Geoffrey St. Hilaire, was also an ardent advocate of the use of horsemeat for reasons of utility and economy.

Numerous dinners have been given at various times by individuals and hippophagic societies, where horsemeat has been served alone, cooked in various forms, or side by side with beef, each course having both meats cooked in the same manner. Undoubtedly the meats are so similar that in the majority of cases they are not to be distinguished, especially if slightly disguised by the sauces and dressings which the cook's art has so completely perfected. Enthusiastic hippophagists frequently go so far as to claim that the horsemeat is preferable.

Some years ago I owned a rather celebrated steeplechaser which had been at pasture for several years, but which had a chronic trouble of the feet, which was incurable and caused her so much pain that it was a charity to kill her. Her meat looked so fresh and tempting that I had her fillets removed and sent to my club, with instructions to the steward that we would have them for dinner.

A friend was instructed to call a meeting of a dozen men to dine and discuss some questions then under consideration. The fillet was served a la Bordelaise. A recent change of the cooks in the club served readily as an excuse for criticism of the cooking and for calling attention to the fillet, which was pronounced to be perfect. Some time after the coffee the guests were told that the fillet was from the old steeplechaser, whom they had all seen win many silver cups. The effect on my friends was amusing. One of the guests, who had been most ardent in praise of the new cook, found immediate fault, and continued to for some days. This certainly was prejudice.

I have had a great deal of experience myself in the use of the flesh of the horse, ass, and mule, and, while I do not agree

that it is as good as good beef, I think there are many reasons why horsemeat should become an article of diet, and be regularly and properly supplied in markets legalized for its sale.

I do not consider its taste equal to that of good beef, but I do consider it superior to poor beef. In its nutritive qualities it is equal to beef when the "condition" of the animals is equal. It is assumed that the horse to be used is in perfectly healthy condition, free from any fever, disease of the lungs or other viscera, and has no local inflammation or abscess. Chronic local troubles of the bones or tendons of the legs, simply causing lameness, need not be considered as disease.

The horse has no constitutional disease which is communicable to man, except glanders, which can always be absolutely diagnosed by post-mortem inspection. Cattle, on the other hand, are frequently infected with tuberculosis, which cannot always be detected by microscopic examination or by the ordinary inspections in the slaughter-house. Gray horses are usually refused at the markets for horses for food, as they are apt to be affected by melanotic tumors, which, while not unhealthy, render the meat gritty and disagreeable.

The value of a horse in prime condition is usually too great to make it a competitor of prime beef, but numbers of horses, because of age, or local troubles causing lameness, fall to a value where they can be readily utilized to great advantage in competition with the poorer qualities of beef. The meat from these horses can be profitably sold cheaper than beef, it is equally nutritious, and brings within the reach of the poorer classes a healthy, good animal food, which they would do without or have less frequently if obliged to pay the price of beef.

From a humanitarian point of view, the opening of markets for horses would give an outlet to many which were just commencing their downward course in value, and it would also be a happier ending for them than the street express wagon and huckster's cart, to which the falling animal rapidly comes to end a useful life with poor food and under cruel blows.

THE veterinary department of the University of Pennsylvania has a corps of nineteen instructors for the session of 1894–'95, an increase of three over the preceding year. The entire number of students reaches seventy-eight, and was the same for the preceding year.

MEAT INSPECTION.[1]

BY CLAUDE D. MORRIS, V.S.

MR. PRESIDENT AND GENTLEMEN: The question of meat inspection, discussed from a sanitary standpoint, is one of paramount importance in the annals of social economy. The capabilities of a man to exercise his mental and corporal functions normally depend, to a large degree, upon the wholesomeness of the food upon which he daily subsists. Without argument, if this is true, it becomes none the less a fact when applied to the Commonwealth. Therefore, six and one-half millions of people fed on wholesome, life-giving food become strong in body and mind, energetic, and contented, not likely to be given to riots, strikes, and lawlessness; but, on the contrary, pursue a life of honest toil, frugality, and happiness. Visit the slums of our cities and those who dwell therein, examine their dietary, and you will conclude at once that this is a fitting place as the origin of Coxeyites, lawless mobs, and discontent. One of the questions endangering our national life to-day, which is demanding adjustment in the halls of legislation, is the evil arising from cheap labor. Cheap labor means cheap food always, and what we mean by cheap food is an article that is not standard, and is unwholesome to a greater or less degree. We sincerely believe that it is not a far-fetched argument that within the elements of inferior food lurk the seeds of socialism. It was our privilege, during the excitement of the recent strike, to overhear a conversation by a band of workmen employed on the public works in the vicinity of the sub-treasury, Wall Street, New York City. As they sat on the curb at noon, eating their lunch, composed of cheap "Bologna" and black bread, one of the number remarked that instead of their being there with a pick and shovel under those depressing influences, referring to the nature of his noon meal and the heat of the day, making roads over which the commerce of that great city rolls, they should have in their hands implements of war, instead of industry, to destroy that sub-treasury and divide among themselves its contents, the yellow metal. We venture to assert that had these men been

[1] A paper presented to the New York State Veterinary Medical Society at Albany, N. Y.; September 13, 1895.

sitting at a table eating a wholesome piece of meat, instead of cheap "Bologna," even with black bread, they would have been engaged in conversation the converse of such dire and hellish designs, such as are born only of socialism.

One of the acknowledged and defined laws of Nature governing the physical activities of human existence precludes from the beginning the over-taxing of the physical nature, resulting in a corresponding attenuation of the mental functions. This, then, being one of the infallible laws of our being, we are furnished with a solution of the problem that the constantly employed physical laborer is not the thinking man of a community, the over-taxing of his bodily energies having resulted in a lessening of the mental functions. In this condition, then, if there is any one thing which will arouse a spirit of envious discontent and a belief that laws are unjust and oppressive, that the distribution of wealth and luxury is unequal, it is when an over-taxed body, accompanied with a weak mind, is eating a spare meal of inferior food. That man is in no condition to reason out the wisdom of the Scriptural injunction "For he that hath, to him shall be given, and he that hath not, from him shall be taken even that which he hath." I shall not reason longer along this line; sufficient only to convey the idea that we believe if the laboring and poorer classes were fed on wholesome food the germs of socialism would not find a domicile in our land.

Our subject is one of the questions which make up the integral of sanitation. Sanitary laws demand recognition in every phase of our existence. We find it is one of the oldest of sciences. The hygienic laws handed down by Moses and Hippocrates are to-day just as applicable as they were two thousand years ago, and only need adaptation to our complex civilization. Nevertheless, progress in the practical application of sanitary principles has not been rapid. It has kept pace with the advance of knowledge; but this has of necessity been slow and disappointing. Until the newspapers began to be widely diffused there was no means of popular enlightenment, and even now people are apathetic about hygienic matters and neglect the "ounce of prevention" nowhere else so vitally important, and especially so in its relation to the question of meat inspection, the gastronomic taste of our Commonwealth is quite animal, and on no question affecting our social economy is the public more ignorant. On that ground alone it is encumbent upon our

sanitary authorities to protect the people against fraud and disease. As we have stated, and it is an acknowledged physiological fact, that a diet so largely albuminous as that of animal flesh must of necessity become, to a large extent, an indirect civilizing force. Wholesome meats are of the greatest importance in the maintenance of health; while, on the other hand, diseased meats, without doubt, environ society with many dangers.

It is difficult for the general public to obtain sufficient knowledge, as a means of self-protection, while busily engaged in the diversified activities of life so fraught with labor and responsibilities as that of our American citizenship. In the husbandry of our Commonwealth the purchaser with his daily wages in his pocket and the cravings of hunger gnawing at his stomach is not in a position to discriminate in a manner always judicious in the purchase of the necessaries of life, nor could he expect to pay for expert services to determine the wholesomeness or otherwise of the food he is about to select, which is to satisfy the natural appetite of himself and family; but, on the other hand, is most likely to purchase that which, to his uneducated sense, is to supplant those daily longings of which he and his family are cognizant—hunger—trusting largely to the integrity of the butcher as to the fitness of animal flesh as food. But we find there are numerous conditions which are patent to the most casual observer already existing in the meat trade, especially so in our large cities, which now demand adjustment, conditions which should no longer give place to the credulity of innocent consumers. We conclude, therefore, that meat inspection is of necessity, and it must necessarily enter the arena of sanitary science. It is necessary, also, because of the prevalence of disease among animals whose flesh is used as human food—diseases that are contagious and infectious among animals themselves and communicable to man. In the next place, what are the diseases the animal economy is prone to that scientific investigation has proven as a menace to human health, and what should be condemned as unfit for human food, and what should be considered as wholesome? In endeavoring to answer these questions we realize at the outset that there is a difference of opinion regarding certain diseases and their toxic effect in meat; but it is our aim to consider only those diseased conditions which, when brought in contact or through alimentation with man, have been proven, and are so accepted to be, nocuous as food.

As a question to be answered as a whole, the one already stated becomes the most difficult of all we have to deal with in connection with the inspection of meat. While we may possess all the proof indirectly of the unwholesomeness of certain flesh, yet we may lack one link in the chain of evidence in supporting the fact of its noxiousness. On an occasion like this we shall generalize the proof in support of our position. We take it for granted that all will admit, where neat cattle having been slaughtered while suffering from inflammatory or febrile diseases, also important forms of blood deterioration or degradation must, of necessity, based either on sentiment or science, admit of its unfitness for human food. The diseases to which we shall allude are pneumonia, simple, sporadic, and contagious, including other lung diseases, suppurative diseases of the tissue or organs of the body. A well-defined cachexia, whether it be cancerous or tuberculous, also where there is advanced putrefaction or mortification of tissue or parts of organs; septicæmia, pyæmia, erysipelas, anthrax, variola, uræmia, dropsy, hydatid disease of the muscles, parturient apoplexy, cattle plague, actinomycosis, foot and mouth diseases, hog cholera, and swine plague. We should recognize that although meat may not be particularly nocuous, it may be quite as harmful in an indirect way by being innutritious. Perhaps some may doubt the advisability of condemning the flesh of neat cattle though suffering with pulmonary and uræmic diseases; but when we come to consider the function of the lungs and kidneys in health and the relation they bear in the maintenance of animal vigor, it seems to us that we should as unhesitatingly condemn as nocuous the same as the more toxic diseases, such as pyæmia, septicæmia, and erysipelas, or puerperal and carbuncular fevers of the anthracoid type. For myself, I believe that whenever flesh is offered for sale as human food, having been slaughtered while suffering from diseases and under medical treatment, it should be condemned on general principles, because the vast majority of neat cattle offered for sale as food while under such conditions are prognosed as unfavorable, and it is the last resort of the owner to realize something as an indemnity, knowing that it will not reach his table, and caring less for the injustice he has imposed upon the innocent consumer. The very existence of such a market cultivates this vicious desire on the part of some cattle dealers and sears all sense of justice as to its evil effect in the community. While such argument may seem to

be based on sentiment, it does possess its grain of justice. On the other hand, for sanitary reasons, we must all admit that such meats are quite liable to produce all sorts of enteric disturbances and fevers.

The Secretary of Agriculture on September 13, 1893, issued instructions to inspectors of the Bureau of Animal Industry in charge of the inspection of animals slaughtered at abattoirs throughout the United States, a list of diseases and other conditions as a basis for condemnation, either on ante- or post-mortem examinations. The last clause of these instructions reads as follows: "12. Any disease or injury causing elevation of temperature or affecting the system of the animal to a degree which would make the flesh unfit for human food, any organ or part of a carcass which is badly bruised or affected by tuberculosis, actinomycosis, abscess, suppurating sore, or tape-worm cysts, should be condemned." The Secretary orders that all condemned carcasses be stamped with the condemnation stamp, and that the inspectors shall cause all such carcasses to be placed in the rendering tanks of the abattoir. I will submit a few facts in relation to some evil conditions that existed at one of the private abattoirs in New York City. And what is true of this one is also true to a greater or less degree of others that came under my observation. From July 1, 1892, to January 1, 1893, there were slaughtered in this abattoir 3601 cows. Out of this number, 492 were diseased, 237 were sick with contagious diseases, and 255 were sick with non-contagious diseases; 15 were at the point of death, as the consequence of their malady, when driven into the shoots to be slaughtered, and three were dressed and hung up that had died on the street en route to the abattoir. Of this number, 492 sick animals, 209 had tuberculosis represented in its varying stages, from the small pearly-like tubercle, as seen on the serous membrane, to complete caseations and calcifications of the tissues involved, and in some instances the carcasses would give forth a very offensive odor. One hundred and thirty-four had pleurisy associated with its complications; 121 had mammitis of the entire udder, and in the majority of cases to the extent of profuse suppurations; eighteen had Texas fever, and had these been left to themselves a few hours longer they would have succumbed. As before stated, three of these died en route to the slaughter-house, and ten had actinomycosis. Out of this total of 492 diseased carcasses, not one of which was fit for human food, the municipal

inspector of slaughter-house meats consigned only nine to the offal, that being done in a perfunctory way, and by no means the worse ones were cut down. Were there not a final market for this class of inferior food product in the city of New York, these cows would not have found their way to a slaughter-house. It is within a few years that there has been a demand for flesh of this inferiority. This demand is on the increase. Only recently have the dairymen living within the vicinity of the metropolis been able to find a market for the old, worn-out, thin in flesh, and diseased animals of their herds. But to-day the rural owner of such cattle finds a ready market and fair prices for this grade of neat cattle. It is a common expression among dairymen when considering the question of dispensing with the old cow to hear them say, "I'll ship her to York." In following this product to its final destination we find that, either of necessity or choice, it goes to the occupants of the thickly-packed houses of the foreign-born population. In the face of these facts, and that this demand for unwholesome meats comes from a class of people not Americans by birth or instinct, whose mode of living is such as tends to invite disease, it therefore becomes a matter of more than municipal concern if in the great metropolis of this country conditions are such that it becomes a laboratory for the propagation of contagion and infection, both domestic and foreign. We have not named all the diseases or unwholesome conditions under which the cattle are slaughtered, whose flesh is used as food; but enough has been stated to illustrate the character of existing evils of this nature which naturally confront us with the questions, How can these evils be abated? and, Who are the proper persons to exercise so important a function?

In the first place, we believe this can be best accomplished by the State. Our reasons are obvious. From April to July 1, 1893, we had occasion to visit daily two abattoirs on Johnson Avenue in the city of Brooklyn. These were private slaughter-houses. Both did contract work for other individual dealers. One of these slaughtered anything that was offered; the other dressed only first and second-grade meats. Through the Board of Health the city had meat inspectors also stationed at these abattoirs, whose duty it was to inspect all slaughtered meats for city consumption. Scarcely ever were they on duty, and when on duty it was very seldom they would cut down a diseased

carcass. In moral, there was no inspection by the municipal officer at these abattoirs.

There are other reasons why the State should control meat inspection. It would be a recognized central power from which all regulations would emanate; uniform in character, progressive in its tendencies, and accepted as authoritative it would remove it from the bane of politics by passing the civil service, thus placing it upon a plane of moral and intellectual fitness. To do this, and to do it efficiently, we would need such laws as will recognize and meet the emergencies and conditions that are shown to exist. The more elaborate such law, the more beneficent would its results be.

The proper place to carry on meat inspection is in the slaughter-house, and at present it is here that the most unwholesome and unsanitary conditions exist. Men who are sanitarians in ability and adaptation sufficient to meet the demands of their position and its relation to the public, cannot in the nature of things be expected to perform a public duty ankle-deep in filth and blood.

(Be it understood that these conditions relate wholly to private slaughter-houses, and in some instances to the public abattoir.)

Those whose privilege it has been to visit the city abattoirs or those in the country districts must have been impressed that there was need of more sanitary regulations than were observed under its present management. In cities there are many reasons why the private abattoir should be done away with, and every reason why there should be none but the public abattoir. These restrictions would not deprive a single slaughter-man of his business, as each could have his space and time allotted. That there should be centralized abattoirs constructed upon sanitary principles is quite as necessary as that meat should be inspected. A building constructed large enough to take care of the business which would naturally come to it, with ample room for dressing beds, cooling trucks, and storage, with a skylight roof over all the working floors, thoroughly ventilated, the plumbing to be of the most modern and sanitary design, properly underdrained and a one-story building, are the crying needs of the hour along this line of reform

The question now naturally arises, Who is the proper person to be the inspector of meats? There can be but one answer to this question. It is the veterinarian. He, by profession and

practice, becomes the person best fitted to judge of the wholesomeness or unwholesomeness of animal flesh as food. His knowledge of the diseases of the lower animals pre-eminently fits him above all others to discharge so important a public duty.

In conclusion, we are not unmindful of the importance of the subject which our worthy Secretary allotted me to discuss on this occasion. Its relation to the public health is one of vital concern, demanding on all occasions hearty support and aggressiveness in its behalf on the part of the profession. It becomes by its uniqueness the veterinarians' duty in our Commonwealth, and while a duty it becomes a greater pleasure by putting ourselves in line to be numbered among the public benefactors of our time

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REMARKS ON SOUTHERN CATTLE FEVER.[1]

BY W. H. HARBAUGH, V.S.

Texas fever, southern cattle fever, or, as it is better known to the public in this State, murrain or bloody murrain, is a subject of vast importance to every member of this Association, as we all reside and practise either within the territory designated by the United States authorities as the permanently infected district, or close to the so-called line of the infected district, where cases of the disease are liable to occur at any time during the season of the year the fever manifests itself, and we are, therefore, called upon to treat the disease as practical veterinarians, not as investigators or theorists.

The cattle-owner does not care how well we are read up on the subject; the difference in opinion as to the real cause of the malady is nothing to him; his animal is suffering with a disease generally supposed to be fatal, and he wants it relieved. We are called upon to relieve it, and we must do our best under the circumstances, or else acknowledge that we do not know enough about this particular disease to attempt treatment. That the disease is the least understood and the most generally misunderstood by the profession at large, and the public as well,

[1] Read before the Virginia State Veterinary Medical Association, Charlottesville, Va., January 3, 1895.

there can be no doubt. But it by no means follows that the treatment is hopeless, as I will endeavor to demonstrate later on.

Many of the erroneous ideas in regard to the malady are the direct result of veterinary writers who, knowing nothing of the subject themselves, depend on the writings of others for their knowledge, and usually fail to understand what they read. As an example of such ideas, I will quote from an article in the December *Review:*

"The micro-parasite is always present in southern cattle, even if they have been away from the southern pastures for a few years. All southern calves go through a natural inoculation by the ticks, at which age the death-rate is very small; when I say all southern calves, I think I am right, as the ticks are pretty well scattered all over the territory, when the winter is not severe enough to destroy them."

The points which I particularly desire to call your attention to at this meeting are the following:

1. The whole territory known as the permanently infected district is not infected. There are farms and sections of counties within this so-called infected area which are as free from infection as any place north of the Potomac.

2. All southern cattle are not dangerous. There are cattle raised on certain farms in the South as free from the disease as if they had been raised in any northern State, and when these cattle are taken to other farms, perhaps but a mile or two distant from where they were born and raised, they contract the disease.

3. All southern ticks are not dangerous. Right here, in the so-called permanently infected district, there are farms where ticks are on cattle at all times, and when cattle are put on the farms from outside the infected district no harm has resulted.

4. All acute cases of the disease are not hopeless ones to treat. Mild ones are favorable, and frequently recover without any treatment, and often in spite of the most atrocious treatment.

Before proceeding further, I wish it to be well understood that I am not here to criticise the work of the Bureau of Animal Industry. On the contrary, I am of the opinion that the work of the bureau stands unequalled by any similar body the world over, and should receive the hearty support and encouragement of every veterinarian who has at heart the interest of this country and his profession. But that there is room for honest difference in opinion on this subject is unquestionable; and, in

fact, if you will carefully read the special report on Texas fever you will be informed by the investigators of many doubts which they freely point out.

I will also say here that so far as the disease is concerned, in my opinion, the only works of practical importance to us as veterinarians are the reports of the United States Agricultural Department and the Bureau of Animal Industry, beginning with Special Report, No. 22, 1880.

I had my first serious outbreak to contend with in the fall of 1886, on the farm of Col. A., in Chesterfield County. Many of this herd were born and raised on the farm, others were brought from Maryland and other States, added from time to time as the owner secured valuable animals to improve his herd.

About twenty of the cattle were affected with the disease, either in the mild or acute types. About six died, including a noted cow which cost her owner $3250. From the first I did not hesitate in my diagnosis of Texas fever. Post-mortem examinations confirmed my opinion. My standard authority was Dr. Salmon's article on the subject, in Special Report, No. 22. The history, symptoms, and post-mortem lesions, as given in that article, are to-day the best extant for the general practitioner, so far as I know.

Col. A. would not believe that the cattle were affected with Texas fever because they had no ticks on them. Thorough search was made for ticks, but none were found. The cattle stable was a clean, well-kept place, thoroughly ventilated and drained. The cows were cleaned daily; and when I tell you that they were cleaned with a currycomb and brush, and with water and soap, if necessary, you will understand what I mean by saying they were cleaned daily. You will also probably understand why no ticks could be discovered on them.

This was my first experience with the tick theory, which I did not believe, and as a consequence I was both amused and annoyed by the Colonel's obstinacy in regard to it, because, at that time, all I knew about the disease I learned from Special Report, No. 22, in which Dr. Salmon says:

"One of the most widely-spread opinions in regard to the causation of southern fever is the pathogenic influence of the ticks with which southern cattle are generally covered, and which migrate in large numbers to the bodies of other cattle with which they mix. But the acceptance of this view is simply an evidence of the desire of the human mind to explain the

origin of mysterious phenomena. The same principle is exhibited in the popular views regarding the pathogenic nature of hollow-horn, hollow-tail, wolf-teeth, black-teeth, hooks, etc., none of which has the least foundation in fact or reason. The tick theory scarcely explains a single one of the many peculiar phenomena of the disease. Ticks are not kept from cattle by a fence. They are found everywhere, but are simply more numerous in the South. Their attacks are not confined to the latter half of the summer; nor would they be likely to remain on a pasture from spring to August, without doing harm, and then suddenly cause an outbreak of the disease. Again, the post-mortem examination plainly indicates the cause of the disease to be an agent taken into the circulation and causing the most important changes in the composition of the blood."

The foregoing disposal of the tick theory by Dr. Salmon in 1880 has much to commend even now, in 1895, notwithstanding the recent discoveries by the bureau investigators, in which the tick has occupied a prominent position.

My ideas in regard to the cause of the disease were also taken from Special Report, No. 22, in which Dr. Salmon says: "It may be doubted if the fever would attack animals unless they had eaten grass which had been soiled by the excretions of the southern animals, or, at least, which had been so near these excretions as to be contaminated by them.

Now, this idea of the cause was fully supported by the circumstances connected with the outbreak in Col. A.'s herd. Up to this outbreak there never had been a case on the farm known to any one connected with it. Many of the cattle were born and raised on the place, while cattle from the North were put on the farm at frequent intervals with no bad results. A few weeks before the outbreak some strange cattle broke through the fence and had pastured half-way of the field in which the herd was grazing before they were discovered and put out. This was the only way that field could have been infected. Of course, ticks could have been dropped on the pasture by these strange cattle, but, as I said before, none was found on Col. A.'s cattle. I, of course, attributed the infection to the excretions of the strange cattle.

After the outbreak of the disease the herd was removed from the pasture to the stable and stable lot, where it was kept until after cold weather had set in. In this outbreak the disease at-

tacked young and old, cows that were born and raised on the place as well as animals from the North.

I fully believe that cattle born and raised on an infected farm acquire immunity from the disease, and I am quite sure that such immunized cattle convey the infection to non-infected pastures, and it is by this means only that the infected area is extended or perpetuated.

Cattle born and raised on a non-infected farm sicken and probably die when put on an infected farm, although the infected farm may be only on the other side of a fence or on the opposite side of a road.

So far as I know, there is but one way to tell an infected farm from a non-infected farm, and that is by testing the pastures in the proper season, by placing on them cattle from a farm known to be non-infected.

Richmond City and the adjoining counties have been within the so-called infected area since the line was mapped out, and that there are many non-infected farms and sections in the vicinity is proved by the fact that hundreds of cattle born and raised on these farms die annually when brought to Richmond and turned out to pasture on the commons during the day, where they contract the disease.

Animals placed in a dairy stable where the cattle are stall-fed entirely, and have only the run of a yard wherein there is no grazing, neither infect others nor are liable to infection, no matter where they are born and raised.

To illustrate better some of the points I have called your attention to I will read a letter from Mr. W. E. Grant:

GRANTLAND, VA., December 13, 1894.

DR. W. H. HARBAUGH, Richmond, Va.

DEAR SIR: Your letter of the 12th inst. to hand. I have never seen a case of Southern fever, except at Col. —, where you were then in attendance, As you know, my place is above, and on the opposite side of the James River. I have never heard of a case in my immediate neighborhood, though on the opposite side of the river I have heard great complaints of sickness of this nature, I suppose. Cattle which I have sold to go to Chesterfield have died, though in perfect health when I delivered them.

I have brought cattle to my place from the mountains of North Carolina and Virginia, New York, Pennsylvania, Holland, and almost direct from the Island of Jersey. I would not hesitate to bring cattle from any place on the face of the earth to my farm if healthy at the time of removal. I have often seen ticks on my cattle, but am not aware that they did any especial injury.

My farm is fenced, but other people's cattle often get in with mine (I don't like to own it, but mine sometimes return their visits).

My cattle are out in the pasture every day in the year, unless there is falling weather or it is extremely cold. I have been, and am, very careful that my cattle shall never have access to stagnant water. This is the only precaution I have ever deemed necessary.

James River is practically an insurmountable barrier between the two counties; therefore, I know very little about Chesterfield County, but I have always understood that cattle in that county had but few restrictions placed upon them. It is unfortunate that so large a portion of the United States should be placed under a ban simply because a few places within that limit have been found unhealthful. Yours, truly,

(Signed) W. E. GRANT.

Mr. Grant is a well-known gentleman, a reliable and practical breeder of Holstein and Jersey cattle, and implicit confidence may be placed in his statement. His farm, Grantland, is about five miles west of Richmond, in Henrico County, and in the so-called permanently infected district.

You must bear in mind that within the so-called infected area a cow born and raised on an infected farm, although insusceptible to the disease, and apparently healthy in every respect, will infect a non-infected pasture by grazing in it; and that a cow born and raised on a non-infected farm will contract the disease while grazing on an infected farm, and that an infected field may adjoin a non-infected field.

These are curious facts, but facts that are as well known to the practitioner as the unmistakable symptoms of the disease. Of course, there may be isolated instances which might be quoted as exceptions.

It is not my intention to occupy much of your time with the tick theory. I do not question any of the discoveries made by the bureau investigators, as far as they go; but you must remember that those experiments were conducted outside the so-called infected area, and seemingly with the object of connecting the tick with the cause of the disease.

Important as are their discoveries, there are many missing links, and while they have placed about all the responsibility on the tick at the experiment station, I am still of opinion that there are other factors as important, if not more so, in the so-called infected area, where the disease occurs seemingly without ticks, and where it does not occur in spite of ticks.

However, the tick theory should not be discarded. It should be carefully considered and intelligently understood, and if your observations in practice support it, you should not hesitate to confirm it as one of the factors that spread the infection in this

State. More good can be done by assisting the bureau in its efforts to solve doubtful points than by placing obstacles in its way, or by trying to prove it wrong.

I have perfect faith in the bureau's discovery of the protozoal micro-organisms in the red blood-corpuscles, because it thoroughly explains every phenomenon of the disease as well as the post-mortem lesions. But from whence comes the micro-organism? From the South, certainly. But how does it gain access to the blood of cattle? Does the tick get it from the infected cattle, or do the cattle get it originally from the tick? That the tick is not a necessary bearer of the microparasite is proved by the bureau's experiments of transmitting the disease by the transference of blood direct from a southern to a northern cow. We are told that the disease is spread by the young ticks. The old tick drops off the southern cow, lays its eggs, the eggs are hatched, and the young ticks crawl on susceptible cattle and cause the disease. Where do these young ticks get the protozoa? Again we are told "the young ticks, as they are hatched near the dead body of the female, may become infected from this." But this idea is negatived by the fact that they produce the disease with the young ticks artificially hatched. Another strange result of its experiments is noted as follows: "The crushed ticks introduced into the blood fail to produce any infection whatever, while ticks from the same lots when placed on the skin produce Texas fever."

The biological part of this subject must be left to the skilled specialist in that field, who, with his perfectly equipped laboratory, may in time settle some if not all of the doubtful points. But I suggest that the proper course for us to pursue is to consider ourselves a committee of observation, and that it be the duty of each member carefully to note every particular in each case treated, including a history of the animal as detailed as it is possible to obtain, and report the same in proper form, so that the recorded observations may be compiled into a paper to be read before the Association next fall or winter.

During the coming season I hope to be able to settle some of the doubtful points we meet with in practice, and, with the assistance of Prof. Niles and Prof. Hoge, I see no reason why we should not conduct some profitable experiments. Surely no Association is better situated to study the disease.

But little attention has been paid to the medical treatment of the disease, which to us, as practitioners, is of the greatest immediate

importance. The investigators have devoted their time to the cause and nature of it.

In the winter of 1886 and 1887 I was in the vicinity of Albemarle Sound, in North Carolina, getting information about a horse disease for the bureau. Naturally, I conversed with a number of physicians of that section, and was informed by them of a serious and frequently fatal type of malaria in the human being they had to contend with, called by them hemorrhagic malarial fever. I was struck with the similarity of the symptoms to those of southern cattle fever. In fact, I know of no two diseases of man and the lower animals so much alike as these two. I wrote the particulars to a veterinarian, who was an authority on southern cattle fever, but he attached no importance to the similarity of the symptoms, considering them merely coincidental. However, I determined to go deeper into the subject, and, consequently, I devoted much of my spare time to reading up the diseases. The more I read the more I became convinced that one who learns much by reading has much to unlearn when he arrives at the naked truth. Of one thing I became convinced, however, and that was that southern cattle fever was either a malarial affection or closely related to that class of disease.

During the discussion of this subject I will call your attention to the symptoms, post-mortem lesions, history, etc., of hemorrhagic malarial fever as compared with southern cattle fever, so that you will comprehend the grounds on which I based my opinion. You must remember that the protozoa, the microparasite, had not been discovered in the red blood-corpuscle of cattle affected with Texas fever at the time of which I speak, and when the discovery was announced, some years later, it only confirmed me in my opinion as to the nature of the disease.

I must mention that many of the physicians who had experience with hemorrhagic malarial fever considered it a new disease; one of them told me he treated the first case that ever appeared in that section, in 1866. But another physician claimed that it was not a new disease, and to prove it he referred to some records in a Quaker meeting-house in Perquimans County, N. C, as evidence that there were cases of it in that county at least fifty years before 1866. He said that, while it was called yellow fever in those records, there could be no doubt that it was hemorrhagic malarial fever, as the history of the case gave ample evidence. It should be remarked that down there

"yellow chill" is a common name for the affection even at this date.

While there I learned that the majority of the physicians with whom I conversed on the subject depended on calomel and quinine as their remedial agents, and I determined to try the same treatment, as far as applicable, to southern cattle fever in the future.

During the following seasons my success was not what I had expected, but still I was not entirely discouraged, as I knew the mortality in the human disease often exceeded twenty-five per cent. I concluded I was giving quinine in too small doses, consequently I laid in a supply of quinine at wholesale prices, and gave it in wholesale doses, and my success became more marked; and now, after years of trial, I am satisfied that quinine is the proper antidote when properly administered and when given to the animal before dissolution has set in.

Although we are called to treat many hopeless cases of the disease, it by no means follows that all acute cases are hopeless. In many instances we are not called to treat ordinary sporadic diseases till they are both helpless and hopeless. The progress of the disease is so rapid that the case is often hopeless when the animal is discovered to be ill; but, fortunately, all acute cases do not become hopeless so rapidly.

I will simply outline my course of treatment in this communication, as we will go fully into the details of it in the discussion which will follow.

I first secure a comfortable stall with desirable surroundings (I never leave an affected animal on pasture if it is to be treated). I then administer a maximum dose of calomel; and in some cases combine other purgatives with it. I then prescribe extra large doses of sulphate of quinine every three or four hours till there is a marked fall in the temperature, or (if the animal is where I cannot see it frequently to take the temperature) until the urine becomes markedly more natural in color. I then continue the quinine, but increase the intervals between the doses as the temperature falls and the urine becomes natural in color.

I allow the animal all the cold drinking-water desired, and feed bran and meal slops if the animal will eat them, but no harm follows the practice of allowing any cured food the patient will eat. Some will nibble at hay, others blade fodder, and some will refuse all food. Such patients I drench with raw eggs and fresh milk, and sometimes with oatmeal gruel.

When the temperature has been reduced to 103° F., or lower, or when the urine is about natural in color, I stop the quinine and give a compound of arsenious acid, sulphate of iron, and nux vomica twice a day, and continue it so long as the cow remains debilitated or in bad condition.

In some cases you will have relapses, when you will have to resort to quinine again. Some cases recover rapidly and permanently, while some few cases only partially recover, linger for a month or two and die, apparently from malnutrition, even weeks after severe frosts. This latter termination is especially marked in cases where owners will persist in turning on pasture after the urgent symptoms have disappeared. Therefore, I advise that all recovered cases be kept off pasture till after cold weather has set in.

In recent years I look for ticks as a matter of curiosity. Sometimes I find them on patients, and sometimes I fail to find them, but I make no systematic search for them.

Such is an outline of my course of treatment, which, of course, is often modified when deemed necessary.

In the case of a human being with a serious disease there are premonitory symptoms which necessitate the calling of a physician before the alarming symptoms have appeared, but in the case of a cow the alarming symptoms have appeared and the disease has made a terrible onslaught on the vital organs before she is discovered to be ill; then we are called. With these facts in mind I have been comparatively satisfied with my average success.

When you have the disease to break out in a herd, one or more acute cases causes the alarm. If you will have all the cattle placed in the stable, so that you can take their temperature, you will often discover quite a percentage of them to be affected, showing no other symptons than an abnormal rise in temperature. Hence the necessity of this procedure.

I will cite two instances that occurred in my practice during the past season as examples covering many of the points referred to in the foregoing pages.

On July 16th, last, I was called to see a case below the city. This cow was one that was born and raised on Col. A.'s place in Chesterfield, before referred to. Her temperature was 107° F., and her urine dark in color. I prescribed the usual remedies, and she made a good recovery in about two weeks. On August 10th I was called to see her again, and found her suffering from

an ordinary attack of laryngitis, from which she recovered in a few days. On August 28th I passed the farm and saw her grazing along the road; she was in good condition and was giving a fair quantity of milk. On October 8th and 15th I was called to prescribe for her for an obstinate diarrhœa. At this time there were no symptoms of southern cattle fever; her symptoms were characteristic of tuberculosis She died some weeks later, the exact date I was not informed, and consequently I had no opportunity of holding a post-mortem examination.

When I was first called to this cow I looked over her, but found no ticks. I asked the stableman if he had seen any on her. He said that he had removed a few very large ones a few days before.

On September 19th I was called to the farm of Mr. F., in Chesterfield County. I found three fine Jersey cows affected with southern cattle fever. Two were down, their urine was almost black, the temperature of both was 108° F. The other was standing, urine slightly tinged with coloring-matter of the blood, temperature 104° F. I discovered no ticks on them. The mild case and one of the acute cases recovered, the other died within twenty-four hours. It was the youngest cow that had the mild case.

All of these cows were born and raised on the farm of Mr. Grant, whose letter I have read to you. They were purchased by Mr. F. and taken to his place early in the spring, and did well until attacked by this fever in the latter half of September.

There is one very important point on which I have not been able to arrive at any conclusion whatever, and that is, whether or not an infected farm may in course of time become a non-infected farm.

We know that Mr. Grant's farm has ever been a non-infected farm, although his cattle have ticks on them; and I know of farms where the disease occurs year after year when new cattle are placed on them, and the question that occurs to my mind is: If all cattle are kept off such a place for a certain number of years, would that place become a safe farm for cattle raised on non-infected farms or cattle from without the so-called infected area?

At present I see no hope of success for preventive inoculation, although several experimenters think they have reached that point.

Natural immunity is acquired by cattle born and raised on an

infected farm. If I intended to embark in the raising of valuable cattle, I would begin with cattle raised on an infected farm, and would buy an infected farm, and I would introduce more cattle from infected farms to keep my supply of infection, as it were, and I would be certain that my place was an infected place by placing on its pastures yearly one or more cheap cows from non-infected places as a test. Hence my breed of cattle would be insusceptible and healthy so far as this disease is concerned, and I would run no risk of such heavy losses as incurred by Col. A. These cattle would be safe to go to any infected farm in the South, and cattle of known immunity are needed, but, of course, they would carry destruction to non-infected places north or south of the line in the fever season.

POISONING OF CATTLE WITH NITRATE OF SODIUM.

BY JAS. B. PAIGE, D.V.S.

FROM the fact that large quantities of strong chemicals are being used as fertilizers by our farmers, we believe the case as detailed below is of sufficient interest to warrant its publication, showing what the results may be if they are not carefully handled.

On May 31st of last year in company with Dr. J. B. Lindsey, vice-director of the Massachusetts Agricultural Experiment Station, I had occasion to investigate a case in which eleven cows of a herd of fifteen had died as a result of giving nitrate of sodium in place of chloride of sodium.

The history of the case given by the owner was as follows: The fifteen cows had been in the pasture during the day. Between five and six o'clock in the afternoon they were driven to the stable, and all at that time appeared perfectly well.

When in the stable a man, a native of Poland, whose work it was to care for the cattle, gave to all except two what he supposed to be common coarse-fine salt, thoroughly mixed with a small quantity of wheat bran. Two had no bran, but in place had clear salt. So far as is known all of the animals ate heartily of the salt.

About eight o'clock of the same evening the noise made by the cows attracted the attention of one of the men about the place, who upon investigating the cause of the disturbance found that they appeared to be uneasy and showed symptoms of suffering pain. Within an hour or two several had died.

A practitioner of human medicine was called to treat the animals, and, thinking the trouble due to arsenic, prescribed dialized iron, raw eggs, etc. The treatment seemed to avail nothing, and before morning eleven of the herd were dead. Of the four which lived, three showed all of the symptoms exhibited by those which had died; the fourth did not appear to be affected at all, and the question arises as to whether she was given any of the salt, as none was found in or about her manger the following day.

The symptoms exhibited by the affected animals, according to the statement of the physician, were evidence of severe abdominal pain, throwing the head from side to side, continual stepping, whisking of the tail, later twitching of the muscles, followed by paralysis of the posterior parts of the body, falling, inability to rise when down, resting of the head upon the sides and occasionally pressure of the nose upon the ground. In nearly all of the cases the anus and vulva became swollen and dark in color. In some, purgation existed with frequent straining; thin feces, not colored with blood, were passed. In none was diuresis a marked symptom. Shortly before death the respiration was hurried and labored, especially so in some. In general the symptoms indicated intense abdominal pain, dyspnœa, and paralysis, particularly of the posterior extremities.

On the day following the eating of the salt, the three living cows that had during the night shown the same symptoms as those which had died did not appear to be suffering to any great extent. An examination showed the temperature to be only slightly elevated, the pulse nearly normal, the mucous membrane but little injected. Food was refused by all. While the feces passed were thin and watery, they were not abnormally abundant, neither were the functions of the kidneys disturbed to any extent. Slight muscular weakness or paralysis existed in the posterior extremities. So far as known the recovery of these animals was complete.

Autopsies made the following afternoon (eighteen hours after death) upon two of the cows which had died first and had not been given drugs revealed the following condition: Parts of

the mucous membrane of the rectum and of the vagina were everted and swollen and of a bluish-black color. Upon opening the abdominal cavity numerous ecchymotic spots were found on the peritoneum and viscera. The mucous membrane of the first and second stomachs near the œsophagus was thickened and red in color, and in these parts it was easily detached from the tissues beneath.

The lungs were semi-solid, dark in color, and the bloodvessels filled with dark blood. Scrapings from a cut section showed the presence of air in the air cells. The left side of the heart contained but little blood, while in the cavities of the right large, black semi-fluid clots were found. All other organs of the body were normal.

The condition of the heart and lungs found upon post-mortem examination would indicate that death resulted from asphyxia.

A chemical examination by Dr. Lindsey of samples of material collected from the mangers, from a pail partly filled with a mixture of bran and salt that had been taken from the mangers, from the ground near the pig-pen and barn door, from a box in a shed near by, and from a barrel in the same shed in which the nitrate of sodium was kept, showed in every sample the presence of large quantities of nitrate of soda but no chloride of sodium.

A chemical examination of a part of the contents of the stomach failed to reveal a trace of arsenic, lead, or other mineral poison.

In the *Veterinarian* for 1876 there are several articles translated from the *Archives Vétérinaires* by Professor Tuson reporting cases similar to this.

One was that of a horse that had drunk ten and one-half pints of a solution of nitrate of soda containing twenty-five and three-fourths ounces of the salt. This animal was seen six hours after taking the soda in solution, and it presented many of the symptoms noticed in these cattle. The administration of strong infusions of coffee and alcohol and irritant clysters relieved the animal, and in a few days he completely recovered from the effects of the poisonous salt.

The second case was that of a five-year-old gelding that had drunk from a pool in which nitrate of soda bags had been washed; he showed the same symptoms and responded to the same treatment as the animal just mentioned.

In the third case a four-year-old mare drank ten and one-half

pints of a solution of nitrate of soda, containing between seventeen and one-half and twenty-one ounces of the salt. In a few hours she was attacked with violent colic, which was relieved by the use of clysters of coffee and alcohol. She made a good recovery.

In the second article published there are recorded cases of poisoning among cattle from nitrate of soda. Four bags of nitrate of soda had been placed at equal distances on a grass field, and had been allowed to remain there about five hours before being applied. During this time some of the salt had become washed from the bags upon the ground by a slight fall of rain. Three days afterward cows were turned into the pasture and obtained the salt by licking it from the ground where the bags had been. They afterward showed symptoms of poisoning.

The last case reported in these articles is as follows: "Two hundred bags which had contained nitrate of soda were washed in four large tubs full of water, close to which the cattle passed on the way to the meadows. At about nine A.M. forty-six cows and heifers drank of this solution of the nitrate . . . . At three P.M. the forty-six cows and heifers returned to the farm. At four P.M. a heifer died suddenly, and at five P.M. another heifer succumbed."

Although the death of only two heifers occurred, many of the other cattle that drank of the soda solution showed marked symptoms of its effects. The death of these two is accounted for by the writer from the fact that they were the first ones to leave the stable, and consequently had more time to drink at the tubs than did any of the other animals which followed.

CANINE DISTEMPER: ITS CAUSES, SYMPTOMS, SEQUELS, AND TREATMENT.

BY E. WADAMS, V.S.

MR. PRESIDENT AND GENTLEMEN: The subject I have chosen for my essay is one, I think, much overlooked by the veterinary profession, for the simple reason that the majority of practitioners consider "canine practice" of small importance, and not sufficiently remunerative for the time and trouble expended;

but, be that as it may, it is a source of considerable income to me, for I find that men who own dogs valuable enough to treat, do what they can cheerfully for their pets, and are willing to pay reasonably for the effort.

At one time I was inclined to believe, from the numerous forms distemper assumes, that there was really no such distinct disease, but that a variety of complaints had been ignorantly jumbled together under a term which affords no distinguishing mark by which to test its separate existence. But closer observation has enabled me, I think, to seize the clue which explains all these apparent discrepancies, and also leads the way to the scientific treatment of this sometimes unmanageable disorder.

I began my investigations by considering what symptoms invariably attend upon distemper. At first I was completely puzzled, for I found in one series of cases nothing but cough and discharge at the nose and eyes, in another these symptoms were absent, and their place supplied by head symptoms and fits, whilst again in the third set, the dogs all suffered from diarrhœa with discharges of blood, and had neither head nor chest symptoms in any stage of the disease. In all these cases, however, I found there was fever, and that of a peculiar kind. This was not like the ordinary feverishness to which dogs are subject, and which attends upon almost all their acute attacks, but of a low typhoid character, with great exhaustion, loss of appetite, and in the latter stages a collection of brown fur, or as it is called in human medicine "sordes," about the teeth.

I have come to the conclusion that a protracted case of distemper is nothing more or less than typhus fever, and in that word typhus might be found the key to the anomalies so puzzling to all inquirers into the nature of the malady.

It seems strange that such men as Drs. Jenner, James Woodruff, Hill, Forrest, and others, did not think of this fact; but if so, have failed to mention it. Their experience in vaccination proved a failure, and this is the universal opinion of all modern professional men who have given it a trial. Everyone, however, must recollect numerous instances in which a simple clue once seized will explain away all differences or difficulties, except the one astonishing fact of this simple clue not having long ago been detected.

The points of similarity between distemper in dogs and typhus fever in man are so strongly marked that a treatise upon the

latter is all that is wanted to enable anyone who understands medical terms or phrases to treat distemper, or, as I call it, typhus fever, with the greatest probability of success.

I know full well that this disease is looked upon by many with contempt as a loathsome disease, but we are here to treat all domestic animals, and why should the ailments of our faithful friend the dog be omitted? His care and treatment belong to our profession and demand attention, and in years to come the treatment of the true friend, the dog, will be sought by the professional man instead of ignored as unworthy of his attention.

How many practitioners are there who do not despise the dog as a patient, and hate to be called upon to treat him? but for my part give me a man who loves or appreciates the value of his dog, and I can invariably satisfy its owner, replenish my exchequer, and do some good to the poor though despised dumb brute.

The old adage still remains, and that is—'tis only a dog—and poor old Watch, Rover, or Spot, is left to die or get well as the case may be, starve or freeze, after years of faithful service.

Symptoms. I define distemper in the dog as a fever of a nature similar to typhus, and always followed by these symptoms:

There are first dulness and restlessness, with partial loss of appetite, heat and dryness of the nose, rapid but feeble pulse, and dull eye, the white of which is generally streaked with dark-red bloodvessels, and the dog seems to be extremely sensitive to cold. The urine is scanty and high-colored; considerable thirst; the movements of the bowels are either costive or loose, if the latter, often of pitchy color; the flesh and strength fail in a remarkably rapid manner, so that the dog is unable to stand inside of a week; the appetite by that time is entirely lost, and frequently the food which is given by force is returned or speedily passed through the bowels unchanged. The respiration generally becomes quicker than natural, though this symptom is not so universal as others I have mentioned. In fact, all the processes of respiration, circulation, digestion, and secretion are disturbed to a remarkable degree, and in this I believe is the essence of the disease, and the healthy return of these functions is always an indication of convalescence; the blood is no longer depurated properly by the agency of the lungs, liver, and kidneys, nor renewed by healthy materials, the result of good digestion.

The circulation, consequently, is imperfectly carried on, and the brain is supplied with impure blood which is full of matters acting as a poison to it, and as a consequence death often takes place at an early date from a fit. Whatever secretions are affected are vitiated in quality and altered in quantity, sometimes being almost stopped, occasioning the dry husky cough and constipation of the early stage; and sometimes in excess, where you have the profuse offensive discharge from the nose and bronchi, or the pitchy discharges from the intestines, which accompany the progress of the disease. Such are the general and characteristic symptoms of the disease.

The local complications involved in this complaint may be enumerated as follows: 1st. The affections of the chest. 2d. Of the liver, stomach, and bowels. 3d. The kidneys. 4th. Of the brain and nervous system. 5th. Of the skin, each trouble being represented by the usual phenomena pertaining to said organs.

Etiology. The most common cause of distemper is, no doubt, infection; but it is occasionally epizootic, and then most probably depends upon some condition of the air. But it also seems to be the natural tendency of all debilitating diseases in young dogs to run on into this typhoid type.

Whether the disease is common catarrh or influenza, or inflamed liver or lungs, or even the irritative fever of worms or teething, in all these cases the tendency seems to be to put on the form of low typhus, and this is especially the case when dogs are ill-fed or crowded together in poorly-ventilated kennels, or, in fact, submitted to any of the ordinary predisposing causes of typhus fever in the human subject. And this disease once established, soon spreads to all within the reach of its influence. The infection seems to be carried with them by dogs after their convalescence. I have frequently known a severe attack supervene upon the contact with a puppy in the slips which was sufficiently recovered to run, though, of course, not in a fit state for such an exertion.

The kennel also seems to retain the infection for a long time, it being most probably absorbed in the urine, etc.

The walls, etc., should be well washed with chloride of lime or some other disinfecting fluid. After the dogs are removed some time should elapse before others are placed in them. Dogs seem to be particularly liable to distemper when approaching maturity, the greater number being attacked between

nine and eighteen months old, but in the typhus fever of man it is not confined to that age; the suckling and the old dog are also open to its attack, though in a much less degree.

As in the human being, one attack generally, though not always, preserves the individual from another attack.

Indeed, the laws of contagion and the statistics of the two diseases are precisely the same, making allowance, of course, for the difference in the time of coming to maturity, and reckoning age in the dog by months and in man by years, so that a dog twenty-one months old may be considered as mature as a man of twenty-one years of age.

Period of incubation. This disease, like typhus fever, takes from ten days to two weeks after infection before making its appearance.

Duration. Distemper varies in the length of attack from a few days to two or even three months; but the average period, like that of typhus fever, is twenty-one days.

Diagnosis. In its mildest form distemper is very often mistaken for ephemeral fever or influenza. Severe distemper is most likely to be confounded with hydrophobia, from which it may be distinguished either by the absence of all aberration of intellect or by the difference of the form of its manifestations. In distemper there is no restlessness, or, at all events, only a tendency to change the posture, while the rabid dog is always on the watch, and eyes every one with a wild, suspicious gaze. The distempered dog is certainly nervous, but only from fear; while the hydrophobic dog knows neither fear nor pain, and will also resist to the death any threats or actual punishment.

If the brain is much affected in distemper, there is almost always a fit or paralysis, neither of which occurs in hydrophobia; and lastly, the distempered dog eats nothing, while the hydrophobic animal has a depraved appetite and devours any filthy material that comes in his way.

Distemper is liable to be confounded with any of the inflammatory diseases which attack the brain, lungs, liver, stomach, or kidneys; but in simple inflammation of any of these organs there is not the extreme and speedy emaciation and loss of strength noticed always in distemper.

Treatment. The management and remedies used in this disease must vary with the stages of the malady, and must necessarily be considered under four heads, viz.: The periods of incipiency, reaction, typhoid, and convalescence. The incipient

stage is, I am sure, treated with more success in the following manner than any other.

Put your puppy or dog, as the case may be, in a comfortable, warm, well-ventilated place, avoiding, of course, a damp or dark cellar; a good dry bed and clothing if in a cold climate. Give a puppy ten months old the following:

℞.—Hyd. Chlor. Mite . . . . . 2 grains.
Pil. Rhei Comp. . . . . 1 drachm.
Sodæ Bicarb. . . . . 30 grains.
M. ft. pulv. Put in six capsules.
Sig.—Give one every two hours until all are taken.

At the same time put ten grains of the hyposulphite of soda to each pint of water the dog takes. Feed on boiled milk, soda crackers, and a little well-cooked mutton, it being easier digested. The stomach will bear more mutton than any other meat. Many men advise oatmeal, but from an extensive experience, both in treating this disease and many others, I find oatmeal too loosening unless combined with a sufficiency of wheat flour, and as the bowels have generally a tendency to relaxation, we cannot be too careful, but I must here remark that to a healthy dog Scotch oatmeal is his greatest support.

The period of reaction, I may say, commences the moment a local symptom shows itself, and it is at this stage that the greatest difficulty in the treatment arises. The chief complications that draw our attention now are the chest, the abdomen, and the head, the skin complications being of minor importance, except as a sign of the severity of the attack.

We will now take up the chest uncomplicated with any affection of the bowels.

Now, gentlemen, with all due respect to my superiors, I am antagonistic to all. Drs. Stonehage, J. W. Hill, Jenner, and numerous others claim tartar emetic their sheet-anchor. I claim it is a dead letter.

In chest complications I want to lower the temperature and keep up the strength, owing to the debilitating influence of the disease. To dose we must use our knowledge of materia medica, and this is my conclusion after considerable experience in the treatment of this disease, with a fair knowledge of the above-named book.

I take my temperature, and if I find a high one, I give a toxical dose of quinine, say ten grains, put in a hot bath and rub dry, then blanket, and if not relieved in eight hours I blister

the sides with cantharides, muzzling the dog at the time; then I give the following prescription, being always particular in its administration.

℞.—Pulv. Digitalis . . . . . 6 grains.
Pulv. Pot. Nitratas . . . . . 1½ drachm.
Ext. Glycyrrhiza . . . . . 1 drachm.
Syrup . . . . . q.s.

M. F. Mass et divide in capsules No. xii.
Sig.—Give one every four hours.

If the animal does not improve on this treatment, and seems to lack recuperative powers, I begin a stimulating treatment, feeding beef tea, mutton broth, and raw eggs beaten up with milk.

The abdomen is generally the seat of severe intestinal disorders, the principal being a diarrhœa accompanied with pitchy discharges. I invariably treat this complication with small quantities of calomel, one-sixth of a grain, prepared chalk, ten grains, or subnitrate of bismuth and turpentine emulsions, always remembering if any intestinal disturbance is due to intestinal parasites, remove them as soon as possible, using the mildest remedies on account of the irritable conditions of the alimentary canal, areca-nut for the tænia family, and oil of woodworm for the lumbricoids.

The head symptoms are generally a severe complication, especially if attended with chorea. I put a seton in the back of the neck, put tr. iodine and tr. cantharides along the spine, every other day for two applications, and give internally the following:

℞.—Strychnia Sulph . . . . . 1 grain.
Ext. Gent . . . . . q.s.

M. F. and Mass. Divide in fifty pills and put in capsules, No. 50.
Sig.—Give one night and morning after feeding, gradually increasing the dose until four a day can be taken.

Typhoid Stages. Watch your patient carefully, as this is the stage which I believe indicates the essence of the disease known as distemper, and unless the dog has been evidently submitted to the contagion, it cannot be pronounced to have had the distemper.

I give the following tonic three times daily: Quinine, one grain; Port wine, one-half ounce, or cod-liver oil, one-half ounce; and tr. chloride of iron, ten minims, controlling the bowels with

subnitrate of bismuth, ten grains, and sulphate of morphia, one-fourth of a grain every four or six hours as occasion requires.

Use injections of starch, always using such food as will be easily digested, and be sufficiently nourishing to maintain the strength of the patient.

Now, Mr. President and gentlemen, I thank you kindly for your patience and attention, and I sincerely hope that this essay may elicit some discussion. The subject, I am aware, is obnoxious to many, but in the future will undoubtedly benefit the whole profession, for, as the dog is bred, so is the requirements of the veterinarian in demand. This simple essay, although not so technical, pathological, or flowery as some, is my own experience based upon facts. I hope this may hold up support or in some way benefit the poor but faithful companion of man, the dog.

NOTES ON TUBERCULOSIS.[1]

BY E. P. NILES, D.V.M.,
BLACKSBURG, VIRGINIA.

BEFORE introducing my subject for discussion, let us inquire into the true standing of the veterinarian and endeavor to obtain a proper definition for the term. Until a few years back the veterinarian was almost unknown in the United States, and consequently had no standing politically, legally, or socially. Why the veterinarian has not enjoyed the same standing in every respect that his close relative, the physician, has, is simply because the proper definition has not been applied to the term veterinarian by the masses of people. The true veterinarian received, and does yet to a certain extent, a "hard name" the moment he entered college, which requires years of trials and tribulations to live down.

The question naturally arises: What is a proper definition for the word veterinarian? Webster gives as a definition for the word "one skilled in the diseases of cattle or domestic animals." I would say a veterinarian is one who is proficient in all subjects pertaining to veterinary science and has completed the prescribed course in a regularly organized veterinary col-

[1] Read before the Virginia State Veterinary Medical Association, Charlottesville, Virginia, January 3, 1895.

lege. Such men will command the same respect that is due any professional man; and I may add that such men are rapidly taking the place of the ancient "horse doctors," whose character had been, in the main, such as to give to the veterinarian the unjust reputation which has been so hard to live down, and which, to a great extent, still exists. The question may be asked, What bearing does the "horse doctor" have on the veterinarian? Simply this: by the majority of people we were and are yet, to a great extent, classed as horse doctors. It is almost an everyday occurrence for the veterinary practitioner to be addressed with: "Are you the horse doctor?" or "cow doctor" by some ignorant party. The time is now at hand that the veterinarian should command due respect from all classes of people, for he is rapidly placing himself in a position to be classed among the public benefactors in the way of suppressing and controlling contagious diseases among the lower animals, and indirectly among the human family. The hearty co-operation of the physician, however, is needed in this work, and, I am happy to say, our cousins are not slow to lend us their aid. I believe that the day is not far distant when the two professions will march hand in hand against the dreaded contagious diseases, many of which affect man and beast alike. In some of these diseases it is first necessary to control them in the lower animals before they can be controlled in man. In this work the two schools of medicine alone cannot succeed. The co-operation of the State Legislature is needed. The organization of an official body of scientific workers must be effected. Money must be provided for its use, for without the proper funds nothing can be done. The present Board of Health is not even allowed money with which to buy its postage stamps. How can the Board be expected to accomplish any good results under such circumstances?

The most dangerous contagious disease that the veterinary and medical professions have to deal with at the present time is *tuberculosis*. I say it is the most dangerous of all the contagious diseases, because it affects both man and beast alike, and because it is so frequently transmitted from the lower animals to man.

This, until recently, has been one of the hardest diseases known to properly diagnose in all of its stages; especially is this true in relation to the lower animals. It is hardly necessary to state here, however, that we now have a reliable and

positive aid to the diagnosis of the disease in all of its stages, *tuberculin*, the *modus operandi* of which does not require a description at this time, for the subject of my last essay is still fresh in your memory. For the introduction of this agent our thanks are due Dr. Koch, of Berlin. For the good results of its use in this country and the practical conclusions drawn from such, all, or nearly, all credit is due the veterinarians. As has frequently been stated, we now have a means at hand by which tuberculosis can be practically stamped out both among the human family and the lower animals. With this end in view the veterinary and the medical professions are working together; yet there is room for them to draw still closer together. They should mingle together in each other's societies, thereby enabling them more effectually to co-operate with each other. When this is done the importance of thorough and careful legislation for the suppression and control of contagious diseases will at once thrust itself upon our legislators. The two professions combined will carry with them much more powerful influence than we can hope to carry alone, especially while our numbers are so small.

The question of legislation for the purpose of stamping out tuberculosis is an important one. Already some of the States in the Union have enacted laws for the purpose, while a few of the States are quarantining against each other, and others are quarantining all herds known to have tuberculous animals among them, without any authority than the general law controlling such contagious and infectious diseases. What will result from such action on the part of the State Board of Health and the State veterinarian remains to be seen. The effect of one State quarantining against another is almost to ruin the cattle industry in the quarantined district. Such a state of affairs exists between Vermont and Massachusetts. The latter has a law purporting to control tuberculosis, but its workings are anything but satisfactory. The law provides for the appointment of inspectors, but does not say that they shall be veterinarians, nor, in fact, medical men of any kind. The consequence is that incompetent men are appointed, more for their political value than anything else. Many of them, I am told, do not know a tubercle from a piece of normal tissue, neither do they know anything about the tuberculin test. They examine in a general way suspected herds, and pronounce them healthy or diseased, according to their best common judgment. Qualified men are con-

demned for doing their duty, and ignorant men are put in their places. The compensation for animals destroyed amounts to little or nothing; consequently, the dissatisfaction is great.

Legislation on the subject should not be gone into hastily, as evidently has been the case in some of our sister States. Such legislation is bound to meet with opposition and finally defeat. All sides of the question must be carefully weighed, and provision made for any point that is likely to arise in the workings of the law.

Our own State should not be the last to legislate on the subject of this loathsome disease. Our next Legislature should, in some way, be made to see the importance of stamping out the disease, and induced to organize the State Board of Health properly, and give them power and money to act in the matter. To procure the necessary laws it will require the combined effort of our society, with the medical society of this State, as well as our own individual efforts. It is also necessary that the breeders of the State should join us in our efforts.

As I have stated in a previous article, all dairy and breeding herds should be put through the tuberculin test. It is also advisable to make the tests as far as possible on all private herds, and the diseased cattle wherever found destroyed. Such animals, of course, must be paid for by the State. If the owners, however, could be made to look at the matter in the proper light they would see that it would in the end be much more profitable to destroy all diseased animals at once, even though they received nothing for them. By keeping one diseased animal in the herd the disease is constantly being communicated to the other animals, until finally the whole herd may become affected. Besides the danger of communicating the disease to himself and family would at once be avoided by the destruction of the diseased animal or animals. It may be argued that the State cannot afford to pay for these diseased cattle. If the State has not now got the money at hand to carry out the work a slight increase of taxes would readily supply the funds, and no one would, or ought to, object to having his tax only slightly increased if he knew that it was for the purpose of making his herds more valuable and almost entirely cutting off his chance to become a victim to tuberculosis. It would seem, however, that extra taxation is entirely unnecessary, for the amount required for the work would grow less after the first year or two.

The following figures show the approximate cost of exterminating the disease: In 1892 the estimated number of cattle in Virginia was 406,137. Supposing the number has remained stationary, and estimating their value at $15 per head, the total value is $6,104,055. If 2 per cent. of these cattle are tuberculous we then have 8138 tuberculous cattle in Virginia. These cattle in health represent $122,070. Each one of these diseased cattle is capable of communicating the disease to one or more healthy individuals; in fact, one animal may infect a whole herd. But suppose the infection is in the ratio of one to two of every diseased animal each year. We will suppose, then, that in the year 1894 we have in Virginia 8138 tuberculous animals; at the above ratio of infection we will have in 1895 10,850 tuberculous animals; in 1896 we will have 14,466. It will be seen that the number of tuberculous animals is rapidly on the increase, even with this small ratio of infection. If the true ratio of infection could be gotten at, however, I am of the opinion that it would be much greater. What other disease can produce such appalling figures? The infection does not stop with animals of the same species, but may extend to nearly all warm-blooded animals, and especially to the human family. I have stated in a previous article that 50 per cent. of the cases of tuberculosis in the human family come from the bovine species. If one person for every ten tuberculous cattle becomes infected from that source each year, we will have 813 more cases of tuberculosis in the human family in 1895 than in the year previous, and 1085 in 1896, and so on year after year, to say nothing of the spread of the disease by those so infected.

Let us see what would be saved to the State and the private stock owners each year by stamping out the disease.

Let us suppose that one-half of the tuberculous animals are destroyed at once. We would have left but 4069 diseased animals to spread the disease. The number infected by these, according to the above ratio, would be 1356, making a total number of 5425 affected animals in 1895, as compared with 10,850. In 1895 we will slaughter the remaining half of the original number, thus reducing the number of diseased animals to 1356. In 1896 the infection will thereby be reduced to 452 animals, so that in the third year of our work we will have but 1808 animals to slaughter, and at the same time we have gotten rid of the principal source of infection in this short time, thus increasing the value of our herds almost, if not quite, twofold,

and greatly lessened the danger to human life. In the first year we have saved the State, by preventing further infection, $20,340. In the second year the amount saved will reach $81,375. In the third year the amount saved will reach the surprisingly large sum of $199,870. It will also be seen that the number of cases of tuberculosis in the human family will be greatly diminished.

Now, suppose the State pays $10 per head for each animal slaughtered. The sum required would be $99,460, averaging about $33,000 per year for the first three years, after which $10,000 per year would carry on the work of the State Board of Health very nicely.

It has been shown above that the actual amount saved over and above the amount expended for the destruction of these animals is $203,125, to say nothing of the human lives that are annually saved.

This is a question that concerns all classes of people alike, and the State can no longer afford to defer action on the matter. The disease is assuming alarming proportions, and unless something is soon done tuberculosis or consumption will be almost as common as common colds.

I have endeavored to show that the veterinarian is now in a position to demand a hearing on these subjects that so constantly menace the public health, and that prompt action on the part of our next Legislature will do much to advance the public welfare and the cattle industry of our State.

OPERATION FOR RADICAL CURE OF UMBILICAL HERNIA IN A COLT TEN MONTHS OLD.

BY A. W. CLEMENT, V.S.

A FASHIONABLY bred "Standard" colt developed a hernia while at the farm on which he was bred in another State. This fall the colt and mare were sent to the owner, a client of mine, near Baltimore, and I was called in to prescribe for the animal. I found an umbilical hernia as large as a goose-egg, which I was unable to reduce while the animal was standing. On manipulation, moreover, it appeared that the ring was closing

in on the loop of intestine, and that an adhesion had formed between the intestine and the edges of the umbilical ring.

The animal was cast, secured, and placed upon his back. Still it was impossible to reduce the hernia. I gave it as my opinion that the only method of reducing the hernia would be to chloroform the animal; and perhaps when the muscles were relaxed that reduction might be possible without cutting, in which case the application of clamps to the loose fold of skin opposite the opening would effect a cure. In case reduction were impossible, then it would be necessary to divide the ring, break down the adhesion, and sew up the edges of the ring, then amputate the loose fold of skin and stitch up the external wound.

The owner decided to leave the whole matter in my hands. It was determined to operate as soon as possible. Some few days afterward the animal was prepared for the operation. He was cast by the side lines, both front feet tied together and controlled by a rope in the hands of an assistant. Chloroform was administered slowly, and when well anæsthetized ether was used for the operation.

After placing the colt on his back, with his rump elevated about eight inches higher than his shoulders, the hair was shaved over the hernia and for some distance around it, and the skin disinfected as well as possible by permanganate of potash and oxalic acid. An incision was then made through the skin at the base of the hernia and extended to the point, then through the subcutaneous tissue and through the cyst-wall, exposing the intestine. It was then apparently impossible to push the intestine through the ring. With a curved bistoury the ring was enlarged so as to admit the little finger. It was then found that there was no adhesion at the ring. Further exploring and exposure of the loop demonstrated the adhesion at the point of the hernia. This adhesion was comparatively easily broken down by the finger, and the intestine then naturally returned to the cavity. The walls of the ring were brought together by four silver-wire sutures, tied but not twisted. The fibrous tissue forming the walls of the sac and extending directly from the walls of the ring was removed, some of the skin cut away, and for the posterior two-thirds the edges brought together by a continuous subcutaneous wire suture. Three interrupted wire sutures were used in the anterior somewhat dependent part of the wound, so that one or more could be removed, if necessary, to allow for drainage.

The operation was performed on the afternoon of January 21st. At 9 o'clock that evening the temperature was 100°; at 11 P.M., 102°; at 3 A.M., January 22d, 101°; at 9.30 A.M., 100°; at 6 P.M., 101.3°; and at 11 P.M., 102.3°. On January 23d, at 7.30 A.M., it was 103.3°. By this time there was a good deal of swelling and at the anterior part of the wound considerable fluctuation. An incision made through the skin allowed about an ounce of blood and pus to escape. The first suture was removed and good drainage obtained. At 6 P.M. the temperature was 102°, and by the evening of the 24th it was normal, and has remained so since. The discharge gradually became less, none of the stitches broke, the swelling gradually subsided, and in two weeks from the time the operation was performed the wound had entirely healed and the reduction of the hernia is now complete. A canvas bandage, with elastic straps on the sides, was made to fit the body, and laced on the back to hold the dressings and at the same time act as a support for the hernia. This bandage will be worn for a time to assist in the process of healing. The pulse was good and strong all of the time, never over 50, appetite good, but not allowed to eat much.

The mistake in the operative procedure was in not fully exposing the cyst before enlarging the ring. Had this been done the adhesion at the point would have been seen. This could have been broken down, when probably the intestine would have slipped back into the abdominal cavity without enlarging the ring. Probably this would have made the closing of the ring stronger.

STATE LEGISLATION.

NEW YORK.

New York veterinarians are desirous of amending the present laws relating to and governing the practice of veterinary science in that State.

Under qualifications for practice the first requirement after July 1, 1896, shall necessitate a license by the Board of Regents of the University of the State of New York.

Secondly, that there shall be established a State board of veterinary medical examiners, of five members, to hold office for three years. These to be appointed from nominations made by the New York State Veterinary Medical Society, or, on their failure, the Regents may appoint from members in good standing

in the veterinary profession without restriction. Each member must be a graduate of a registered veterinary medical school and have practised for at least five years. They shall be removable for cause.

A third section provides for a certificate of appointment, oath of office, and powers, subject to the approval of the Regents.

A fourth section provides for expenses, the board of examiners only receiving compensation from any funds remaining after all expenses are paid.

The fifth section provides for officers of the board and the necessary meetings, a majority to constitute a quorum, and the assignment to committees of examining papers and candidates.

A sixth section as to admission of examination: The Regents shall admit to examination any candidate who pays a fee of $25 and submits satisfactory evidence, verified by oath if required, that he: (1) is more than twenty-one years of age; (2) is of good moral character; (3) has the general education required in all cases after July 1, 1896, preliminary to receiving a degree in veterinary medicine; (4) has studied veterinary medicine not less than three full years, including three satisfactory courses in three different academic years in a veterinary medical school registered as maintaining at the time a satisfactory standard; (5) has received a degree as veterinarian from some registered veterinary medical school. The degree in veterinary medicine shall not be conferred in this State before the candidate has filed with the institution conferring it the certificate of the Regents that three years before the date of the degree, or before or during his first year of veterinary medical study in this State, he has either graduated from a registered college or satisfactorily completed not less than a three-years' academic course in a registered academy or high school; or has a preliminary education considered and accepted by the Regents as fully equivalent; or has passed Regents' examination in arithmetic, elementary English, geography, spelling, United States history, English composition, and physics. Students who had matriculated in a veterinary medical school before October 5, 1893, shall be exempted from this preliminary education requirement, provided the degree be conferred before July 1, 1896. The Regents may, in their discretion, accept as the equivalent for any part of the third and fourth requirement evidence of five or more years' reputable practice in veterinary medicine, provided that such substitution be specified in the license.

A seventh section provides for at least four stated examina-

tions yearly, and in at least four convenient places, and that all examinations shall be exclusively in writing and in English. Examination to be conducted by a Regent examiner; the candidate's papers to be submitted to the board of State examiners; candidates failing are accorded a second examination after six months without fee, this time to be spent in study.

An eighth section, as follows: On receiving from the State board an official report that an applicant has successfully passed the examination and is recommended for a license, the Regents shall issue to him, if in their judgment he is duly qualified therefor, a license to practise veterinary medicine. Every license shall be issued by the University under seal, and shall be signed by each acting veterinary medical examiner of the board, and by the officer of the university who approved the credential which admitted the candidate to examination, and shall state that the licensee has given satisfactory evidence of fitness as to age, character, preliminary and veterinary medical education and all other matters required by law, and that after full examination he has been found properly qualified to practise. Applicants examined and licensed to practise before July 1, 1896, by other State examining boards registered by the Regents as maintaining standards not lower than those provided by this article, and applicants who matriculate in New York State veterinary medical schools before July 1, 1896, and who receive the veterinary degree from a registered veterinary medical school before July 1, 1896, may, without further examination, on payment of $10 to the Regents, and on submitting such evidence as they may require, receive from them an indorsement of their license or diplomas, conferring all rights and privileges of a Regents' license issued after examination. If any person whose registration is not legal on account of some error, misunderstanding, or unintentional omission, shall submit satisfactory proof that he had all requirements prescribed by law at the time of his imperfect registration, and was entitled to be legally registered, he may, on unanimous recommendation of the State board of veterinary medical examiners, receive from the Regents under seal a certificate of the facts, which may be registered by any county clerk, and shall make valid the imperfect registration. Before any license is issued it shall be numbered and recorded in a book kept in the Regents' office, and its numbers shall be noted on the license. This record shall be open to public inspection, and in all legal proceedings shall have the same weight as evidence that is given to a conveyance of land.

A ninth section provides for the proper registration of such licensed veterinarians in the various counties of the State.

A tenth section provides for registration in another county or more than one county.

An eleventh section—certificate and presumptive evidence—unauthorized registration and license prohibited. Every unrevoked certificate and indorsement of registry, made as provided in this article, shall be presumptive evidence in all courts and places that the person named therein is legally registered. Hereafter no person shall register any authority to practise veterinary medicine unless it has been issued or indorsed as a license by the Regents. No diploma or license conferred on a person not actually in attendance on the lectures, instructions, and examinations of the school conferring the same, or not possessed at the time of its conferment of the requirement then demanded of veterinary medical students in this State as a condition of their being licensed so to practise, and no registration not in occordance with this article, shall be lawful authority to practise veterinary medicine, nor shall the degree of doctor of veterinary medicine be conferred *causa honoris* or *ad eundum*, nor if previously conferred shall it be a qualification for such practice.

A twelfth section—construction of this article—shall not be construed to affect commissioned veterinary medical offices serving in the United States Army or in the United States Bureau of Animal Industry while so commissioned; or any person for giving gratuitous services in cases of emergency; or any lawfully qualified veterinarian in other States or counties meeting legally registered veterinarians in this State in consultation, or any veterinarian residing on a border of a neighboring State and duly authorized under the laws thereof to practise veterinary medicine therein, whose practice extends into this State, and who does not open an office or appoint a place to meet patients or receive calls within this State; or any veterinarian duly registered in one county called to attend isolated cases in another county, but not residing or habitually practising therein. This article shall be construed to repeal all acts or parts of acts authorizing conferment of any degree in veterinary medicine, *causa honoris* or *ad eundum*, or otherwise, than on students duly graduated after satisfactory completion of a preliminary and veterinary medical course not less than that required by this article as a condition of license.

The thirteenth section provides for penalties for violation of any sections or section of this act.

REPORTS OF CASES.

TREATMENT FOR AZOTURIA.

BY LOUIS OLRY LUSSON, ARDMORE, PA.

If called within the first two hours of this most dreaded malady, I can have my patient on his feet in just thirty-six hours. I first do the most important part, procure a warm sheepskin. If I cannot find a butcher handy I send the owner after a sheep and kill and strip it myself, placing the steaming hide over the kidneys and croup (right side down). Next catheterize; then aloes barb. ℥jss, and if in severe pain chloral hydrat. ℥j and the following:

℞—Ext. Buchu . . . . . fld.
Ext. Juniperus Becca . . . fld.
Ammon. Acetas . . . āā ℥iv. M.

Sig.—Two (2) tablespoonfuls (℥j) in the same quantity of water *every hour* for twenty-four hours, then every two hours for the next twelve hours.

Method of Treating Cases of Azoturia.—I make a practice to catheterize every eight hours and administer chloral in ℥j doses when patient is very uneasy, allowing water ad libitum, and turn every few hours. When using sheepskin (fresh) in conjunction with drugs above described I rarely lose a case. I do not offer this as a new mode of treatment, but simply as the result of my personal experience.

AN INTERESTING CASE.

BY LOUIS OLRY LUSSON, ARDMORE, PA.

On June 22, 1893, I was called by a Mr. G. to see a yearling filly by the famous hackney stallion "Matchless," of Londresboro. The filly was in a pasture lot with a number of other colts, and had been noticed by one of the men an hour before to be apparently all right. When I arrived I found her in one corner of the paddock unable to rise; and, after calling some assistance, endeavored to place her on her feet. I found, however, that her hind quarters were incapable of supporting her

weight. She was placed on a sled and removed to a box stall and placed in slings. Improvement was so slow that she was kept in the slings for eight or nine weeks. She was then allowed the freedom of the box stall. She could stand and walk (with a wobble), but if she attempted to turn suddenly around would fall. She was placed in a paddock by herself, and could trot and gallop, but still walked with a wobble, and in trotting would "grab" her forequarters, and in attempting to stop or turn suddenly would fall.

My diagnosis was an impingement of the cord, caused by a fracture of the body of the vertebra in falling, as when found the filly was in such a position that to me it appeared as though the colts might have been all running toward the corner, suddenly stopped, and in so doing might have knocked down this filly and caused the injury. The history, symptoms, and partial recovery assimilate very closely a case of infantile paralysis.

I made it my duty to see this filly now and again for about a year, and at several different times gave a strong alterative and nerve tonic, to try to repair what I thought an inactivity of the cord. During this period the animal gradually improved. She would still sway behind when trotting slowly or walking, but would not fall. My friend, Dr. —, has been treating the above gentleman's stock for the past year, and he informs me that the "Matchless" filly still has the same unsteady gait and had developed a beautiful case of osteoporosis of the superior and inferior maxilla. The problem was solved and my diagnosis correct—a fracture of the vertebra, sustained by a fall or concussion, assisted by the change in the bony structure, had caused pressure on the spinal cord and consequent partial paralysis.

THE results of a complete census of farm animals, conducted by the *Orange Judd Farmer*, and covering every county in the country, appears in the January issue. The decline in values during the past year is very heavy, the aggregate value of all classes being $1,922,600,000, against $2,262,400,000 a year ago, a shrinkage of 15 per cent. The total number of horses on farms is given at 16,082,000, valued at $678,807,000, a decline of $115,000,000 in value; mules, 2,341,000, valued at $107,574,000; cows, 17,451,000, value $387,576,000; cattle, 32,398,000, value $458,303,000; sheep, 35,819,000, value $60,758,000; hogs, 47,061,000, value $229,568,000.

EDITORIAL.

As we go to press information reaches us that those opposed to the appointment of a veterinarian in executive capacity as a member of the Live Stock Sanitary Board in Pennsylvania have relinquished their opposition, and that a State veterinarian at a salary of $2500 per year will have a place in the new department of agriculture to be established as a State department in this State. This will be grateful news to every progressive veterinarian, and especially to the profession in Pennsylvania, for no concession was ever won under a more stubborn and unrelenting opposition.

New York Desires a Higher Standard.—The proposed act, a summary of which is printed in this issue of The Journal, to complete veterinary legislation in New York State approaches the ideal very closely, and all movements in this direction looking toward a higher educational standard of the future veterinarian must surely command the strong support and potent influence of everyone who has at heart the true growth of the veterinary profession. Already the cry of alarm has been sounded against this act, because of the higher standard it demands and will establish. Let it be well considered and remembered in the counsels that will ultimately prevail that this has long and earnestly been pressing for solution, and those who may cry out against it to-day have for many years had in their hands the instruments to correct this evil. It may sound the death-knell of some institutions which for years have engrafted upon our country a class of graduates armed with diplomas that represented but little so far as a thorough education might be considered, and who for twenty or more years established so low a standard and were even willing to leave it forever thus, until strong arms of support were thrown around those few pioneers who had given the first impulses for higher veterinary education in America, and earnest, persistent agitation brought its just reward.

Necessity for a Uniform Degree or Title.—Nothing is so mystifying to the public generally, and nothing so absurd to the intelligent public, as the many different applications which are

affixed to the names of veterinarians. One is V. S., one D. V. S., another D. V. M., and still another V. M. D., while lately, that her graduates may still more deeply mystify the public, D. C. M. is brought forth by one of our colleges. Certainly if "simplicity is the mark of intelligence" our profession must be sadly wanting. In England it may be well enough and justifiable to add several letters to one's name, as the affix is uniform and well understood, and also carries with it the sole right to practise. In this country the only title that means anything is simply V. S., and why should we want anything more? It is plain, dignified, and brief. The quicker it is adopted as a uniform title by all of the colleges in the land the better for the profession. A man worthy of the confidence of the public should not try to mystify them, for if he does it will generally work, and justly so, to his disadvantage. It is an evidence not only of ignorance but of bad manners. We hope to see the time when every graduate practitioner will have printed upon his door-plate simply the letters V. S., or better the words "Veterinary Surgeon." The association of the veterinary faculties at present organized will do well, we believe, to adopt this simple title as one more becoming to the profession than D. V. S., D. V. M., V. M. D., or D. C. M.

ERROR.—On page 385 in the November number of THE JOURNAL, referring to the veterinary department of the Iowa College, the words academy and medical should read agricultural and mechanical.

REVIEWS.

A Manual of Veterinary Therapeutics. By E WALLIS HOARE, F.R.C.V.S. English veterinary literature has lacked for many years the existence of a modern, up-to-date work on veterinary therapeutics. While every English-speaking veterinarian feels a debt of gratitude to Finlay Dunn for his excellent work, yet so much has been recently added to the knowledge of veterinary medicine and therapeutics that a work just issued from the pen of the above author and controlled in the United States by the well-known veterinary publishing house of W. R. Jenkins, New York, will more than fill a long-felt want. The plan adopted in considering drugs and their actions and uses will be fully appre-

ciated by every veterinarian. The concise, clear, and definite manner in which the whole subject is considered will find rapidly for it a place in the hands of every busy, progressive practitioner in North America. Surely one can well say that the growth in English veterinary literature has been well augmented by this addition, and the path of every student of veterinary medicine will be made lighter and easier to travel through a perusal of its well-filled pages.

Manual of Veterinary Micro-Biology. By Professors MOSSELMAN and LIÉNAUX, National Veterinary College, Curghene, Belgium. Translated and edited by R. R. Dinwiddie, Fayetteville, Ark. Cincinnati: The Robert Clark Company. 1894.

The translation of this work by Dr. Dinwiddie will fill a long-felt want in the library of the busy practitioner of veterinary medicine. It is practical and instructive and contains nothing but what every veterinarian should desire to know. Too many practitioners are ignorant of the first rudiments of bacteriology, much to their disadvantage in this age of medicine. Bacteriology is bound to rule the medical world, and the earlier the general practitioner makes up his mind to this the quicker he will post himself upon the subject and the less likely will he be of becoming a back number. We take pleasure in recommending Dr. Dinwiddie's book, and wish for it a large circulation.

REVIEW OF VETERINARY SANITARY WORK.

INFECTIOUSNESS OF MILK. Report of Dr. Harold C. Ernst to the Massachusetts Society for Promoting Agriculture. This valuable report, by Dr. Ernst, of Harvard University, with the collaboration of Drs. Peters, Jackson, and Frothingham, has just come to our notice, and we are certainly delighted with the evidence of the good work performed and the results obtained. This report represents many months of faithful and careful work. The investigations comprise: "1. A careful and persistent microscopic examination of the milk from cattle whose udders were apparently healthy. 2. Inoculation experiments with such milk. 3. Feeding experiments with same milk. 4. Similar investigations of the milk-supply of Boston. 5. The gathering of such evidence as possible from medical men and

veterinarians as to cases of probable infection through tuberculous milk that had come under their observation." An experimental farm was provided where the animals were kept and the inoculation and feeding experiments carried on. The laboratory work was carried on at the Harvard Medical School. Statistics as to the evidence for and against the probability, from a clinical standpoint, of infection from milk, were obtained from many physicians and veterinarians in different parts of the country. The report is full of *facts* and interesting reading, and is certainly a relief from the mass of generalization in the literature of to-day upon the subject. Pity that other States would not carry on such work, and that the General Government would not appropriate a sum of money for the *investigation* of the subject of tuberculosis from every standpoint.

THE Tuberculosis Commission working under the direction of the State Board of Agriculture of New Jersey have just presented an official report of their work. The Commission have employed veterinarians in various parts of the State to carry out the provisions and rules of the commission. Tuberculin has been generally adopted as a diagnostic agent. The first herd tested was that of the State Hospital at Trenton. It was considered as a typically well-kept herd, numbering forty-eight in all; twenty-eight responded to the test, twenty-seven of which have been destroyed, and all but one presented marked evidence of the disease. Another herd of six cows, in a very emaciated state, gave generally the appearance physically of being afflicted with tuberculosis. Injections of tuberculin failed to give any reaction, and on slaughtering no evidence of the disease was visible. A number of other herds were tested and the reliability of the tuberculin test fully substantiated.

THE agitation for a better system of dealing with the contagious and infectious diseases of live stock of the State of Pennsylvania bids fair to end in the establishment of a department of agriculture, the secretary of which shall have a place in the Governor's cabinet, the departments of agriculture, dairy and food commission, forestry commission, zoology, weather bureau, and a State veterinarian, to be under the direction of this department.

CORRESPONDENCE.

CARVERSVILLE, PA., JANUARY 31, 1895.

Editor of Journal of Comparative Med. and Veter. Archives.

THE editorial, "Roads to Veterinary Education," is an excellent article. I am at a loss to know in what way the professors of colleges should proceed or adopt plans to ascertain whether the persons offering themselves as students have the natural ability and love for animals to insure their taking a proper interest in the science. A person to become a good veterinarian should have a philosophical mind, so that he could trace causes up to their effects and effects back to their causes. To do that he must have large reasoning faculties; his perceptive faculties should be well developed, so as to take notice of every symptom and movement that a sick animal will make; his organ of comparison should be large, to enable him to compare symptoms that simulate each other in different diseases; his mechanical talent should be good, for he will find use for it every day in practice; in fact, he should have a well-developed brain, or you will fail to make a good veterinary surgeon out of him. You cannot make a good wagon wheel out of a pine board, although you have painted, polished, and varnished it so that it will look as well as any wheel made of the best material. Now, what is the wheel good for? The answer is nothing. So it is with him that has no talent for the profession. He may learn to recite and answer questions, and still be of no more account when he goes into practice than the good-for-nothing wheel is on the road. I frequently tell my neighbor doctors that any kind of a stick will do to make a human doctor out of, because their patients tell them what is the matter, and they have nothing to do but to prescribe.

I had at one time two young men, well educated, to call on me, saying they wanted to read veterinary medicine. I took them in; they read books attentively and went with me frequently, and when I was examining a horse and asking questions to get the history of the case they would be walking around, looking at something else. A nearby farmer had a horse taken (it was supposed) early in the evening with enteritis. In the morning, when called upon, I took them with me. I

soon saw the disease had done its work, and the mare would die. I left them with instructions to watch every symptom and movement that the patient made until she died, and then we would make a post-mortem, but in half an hour after I left they came home. I asked why they had left so soon. They replied they had seen how the horse acted, and that was enough. I advised them to quit reading veterinary medicine, which they did.

I write this to show that many men who have no talent for the profession will attend lectures and obtain diplomas. To remedy this evil do not graduate anyone under a three-year course of twenty-four weeks in college, and the intervals spent with a good practitioner, where he can be getting a practical knowledge every day. I look upon a man with a diploma like a stallion with a registered pedigree; if he be individually worthless, the diploma and the pedigree are of no account.

I see by THE JOURNAL that the intelligence manifested by horses and dogs is claiming attention. If I do not forget, I will give you some of my experience on that line, and I may be foolish enough to offer a reason for "Mazeppa's" performance; but I do not expect to do anything more of any account, because I feel that I am on the down grade to the last depot, running steady and easy, expecting to arrive there when the law of Nature for the outlet of human life has been fulfilled, which is worn-out old age. Perhaps you may find a grain of wheat in all this chaff.

Very truly yours,

ISAIAH MICHENER.

No less that four bills are pressing for consideration at the present session of the State Legislature in Pennsylvania, looking to a better and more comprehensive method of dealing with contagious and infectious diseases of live stock. Active, aggressive workers are vigorously pushing them all, and many prophesies are in the air as to the outcome. A department of agriculture, with a cabinet position for the head in the Governor's official family, with sections devoted to animal industry, forestry, and ornithology, under its supervision. The creation of a State veterinarian, as an official of the State Government, is being considered.

SOCIETY PROCEEDINGS.

THE NEW YORK STATE VETERINARY MEDICAL SOCIETY.

FIRST DAY. *Wednesday, September 12, 1894.*

The fifth annual convention was held at the Delavan House, Albany, September 12 and 13, 1894. The meeting was called to order by the President, Dr. R. S. Huidekoper, at 2 P. M.

On roll-call by the Secretary the following members were present: Drs. John A. Bell, W. L. Baker, James Carnrite, Charles Cowie, W. H. Carpenter, N. P. Hinkley, E. D. Hayden, R. S. Huidekoper, E. B. Ingalls, Claude D. Morris, William Machan, John Wende, R. D. Austen, F. Morrow, W. J. Wadsworth, V. L. James, E. J. McLeod, Thomas Giffin, J. W. Darby, William H. Kelly.

The President then addressed the meeting, calling the attention of the members present to the growing importance of veterinary organization, and urging all members to form local societies and try to induce members of the profession to become members of county, State, and United States veterinary societies.

He called attention to the valuable information gained and the many advantages to be derived from such meetings, not only from debates and discussions on papers and communications read before the meeting, but also by the free exchange of ideas and individual thoughts. He said it also gives us all an opportunity to become better acquainted with our fellow practitioners both socially and professionally, and he always felt, when arriving home after attending some veterinary society meeting, as though his time had been well and usefully spent. He hoped that this meeting would be one of interest to every member present, and that the reports from the several committees, and the reading of the different papers, would bring forth from every member in the room discussions and knowledge sufficient to amply repay every one for attending. He briefly outlined the rapid and successful advance made by the veterinary profession in America; the reorganization of short-term schools, by demanding of its students a moderately strict matriculation examination, also lengthen their term of instruction from two sessions of from four to six months each to three sessions of six months each. He concluded by stating the great need of higher education, perfection, integrity, and ethics in the veterinary profession.

At the conclusion of the President's remarks the minutes of the last meeting were read by the Secretary.

Dr. Wende objected to certain parts of the minutes which quoted Dr. Wende as saying that a man from Ohio informed him that the staff of the Ohio Veterinary College was composed of gypsy horse dealers and blacksmiths. Dr. Wende said that what he did say was that he was informed by a man from Ohio that stockholders of the Ohio Veterinary College (not

the staff) was composed of horse dealers, gypsies, and blacksmiths, and asked the Secretary to make these corrections. With these correction, it was moved by Dr. Bell, and seconded by Dr. James, that the minutes be accepted. Carried.

A recess of twenty minutes was then taken to consider the application of new members.

The following gentlemen's names were handed the Board of Censors to act upon: Dr. Arthur O'Shea, New York City; vouched for by Drs. Thomas Giffin and William Machan. Dr. H. B. Ambler, Chatham, New York; vouched for by Drs. Claude D. Morris and John Wende. Dr. J. H. Huhne, Kingston, New York; vouched for by Drs. R. S. Huidekoper and N. P. Hinkley. Dr. W. W. Kennedy, Fulton, New York; vouched for by Drs. M. M. Poucher and James A. Pendergrast. Dr. Arthur W. Baker, Cortland, New York; vouched for by Drs. Claude D. Morris and John Wende. Dr. A. G. Wicks, Schnenectady, New York; vouched for by Drs. Claude D. Morris and W. L. Baker. Dr. W. B. Switzer, Willows, New York; vouched for by Drs. D. C. Papworth and E. H. Nodyne. Dr. J. M. Currie, Rome, New York; vouched for by Drs. Frank Morrow and John Wende.

The Board of Censors went into executive session, and at 4.30 P.M. the President called the meeting to order, and the chairman of the Board of Censors, Dr. Claude D. Morris, reported favorably upon the following names: Drs. Arthur O'Shea, H. B. Ambler, J. H. Huhne, W. W. Kennedy, Arthur W. Baker, A. G. Wicks, W. B. Switzer, J. M. Currie.

It was moved by Dr. Morris, and seconded by Dr. Morrow, that the names here reported by the Board of Censors be balloted for. Carried. The Chair then appointed Drs. Morrow and Machan as tellers. A separate ballot was taken upon each individual name and, no dissenting ballot being cast, they were all elected members. The new members were then brought into the assembly room and introduced by the President.

Reports of Committees.

The Committee on Legislation, Dr. W. L. Baker, reported that the committee had met at Albany and had done good work, although they had not accomplished their aim and object, nevertheless, they had succeeded in making their wants better known to the several members of the legislative body, and had materially increased the number of our friends and co-workers in our cause. Dr. Baker, in his report, forcibly urged all veterinarians in New York State who are in sympathy with our cause and desire to elevate the profession and to aid in abolishing quackery, illegal practice, and illiterate charlatans, to come forward and put their shoulders to the wheel and give the Committee on Legislation every assistance, not only by their personal aid and influence but to interest all of their friends and members of the Assembly and Senate in our cause. Explain to them our wants and our desires, and you can rest assured that few men who are intelligently informed that we are asking of them to pass a law for the public and our protection but will be with us when the time comes for the casting of their votes. Dr. Baker continued by asking for an extension of time for the Committee on Legislation, and finished by calling the attention of the members present that, seeing that Prof. Law was unavoidably absent, he, Dr. Baker, wanted to say that the society was indebted to Prof. Law for his personal endeavors during last winter in trying to get our proposed bill passed, and

that the Professor had worked with untiring energy to see the bill become a law, and Dr. Baker was sure that the Professor would again willingly take the same interest the coming year.

Dr. Baker's report was received with applause. It was moved by Dr. Morris that the report be accepted and the committee be given more time for work. This motion was seconded by Dr. Morrow and was carried.

Dr. Arthur O'Shea, of New York, made a few important and interesting remarks on his experience in Albany in his efforts to improve the present veterinary laws as they now stand. He stated that after being in Albany a short time he discovered the very unpleasant fact that the empirics had nearly succeeded in having the old law of registration extended to January. 1895. After enlisting the aid of several State officials in his cause he had the gratifying assurance from the principal members of the Legislature that the time for registration would not be extended.

Dr. O'Shea continued his remarks by urging all veterinarians in New York State to arouse themselves and put new energy in our cause, see their representative members of Assembly, explain the condition of the proposed law pertaining to the regulation of veterinary practice in this State, also the reasons why we, as a veterinary body, ask for better laws for our professional protection and the better protection of the health of the people of the entire State. Dr. O'Shea, in concluding his remarks, spoke of another beneficial change (which would benefit the veterinarian) in the laws exempting the veterinarian from jury duty. This was simply an amendment of a law which had formerly exempted medical and some other professional men from acting as jurors. The Doctor said before closing his remarks that he would like to urge the Committee on Legislation not to wait until the eleventh hour of the session at Albany, but to be on the field early and come prepared to stay until they had either lost or succeeded in gaining their cause.

Dr. Claude D. Morris said, inasmuch as Dr. O'Shea had saved the veterinarians of the State of New York the disgrace of having the disgraceful law of 1886 extended, that he took pleasure in offering the following resolutions:

Resolved, That this society desire to extend to Dr. O'Shea, of New York City, their hearty approval and congratulations in testimony of his valuable services in behalf of elevating our honored profession.

Resolved, That by his timely interest and energy he succeeded in preventing further advances made on the part of and in behalf of empirics of our State to gain both illegal and unwarranted recognition in the profession under the guise of statutory provisions.

Resolved, That we recognize these valuable services, and that we take pleasure, in convention assembled, to so express our approval.

These resolutions were seconded by Dr. Baker and unanimously carried. Dr. O'Shea then expressed his appreciation of the same.

On motion of Dr. Baker, seconded, the meeting adjourned at 1.10 P.M. to come together again at 2.30 P.M.

Afternoon Session.

The meeting was called to order at 2 P.M. with a full attendance of all members. The next business before the meeting was the report of the Committee on Publication. The chairman, Dr. Hinkley, reported progress,

and said that he expected soon to be able to send to each member a copy of the revised by-laws and constitution, as the committee desired to add a short history of the organization, a list of members, and considerable other useful information in the same pamphlet. He therefore would ask for an extension of time. Dr. Wende moved that the report be accepted and the committee be given more time; seconded by Dr. Cowie. Carried.

The Committee on Prosecution, Dr. Wende, chairman, reported some cases in Erie and neighboring counties, where illegal practising had been reported to the committee. He also said that one or two test cases were about to be tried. He pointed out some difficulties of always obtaining sufficient evidence of the proper kind to convict a defendant under the present law. He concluded by saying that the committee would have more and important information at the next meeting of the society.

A very interesting discussion followed the report of this committee, which was taken part in by every member in the room. It was evident from the remarks made by the several members that quackery and illegal practising were very prevalent throughout the State, and that the proposed bill, of which our Society has been so anxious and have made such earnest attempts to have become a law, is one of the necessary and important questions for the Committee on Legislation to urge and work for.

Moved by Dr. James, and seconded by Dr. Carnrite, that the report of this committee be accepted, and the members be retained and asked to continue on with their good work and report at our next meeting.

Report of Committee on Arrangements. Dr. Kelly, chairman of this committee, reported what the committee had done to arrange for the present meeting, and informed the members present of several invitations from State officers to visit the Capitol and other places of interest in the city.

Moved by Dr. Darby, and seconded by Dr. Hayden, that the report of this committee be accepted, and also the invitation to visit the different places of interest, and that the committee be tendered a vote of thanks for the excellent arrangements made by them. Carried.

Report of County Secretaries. The Secretaries of the several County Societies reported excellent progress, many of them forming strong county societies, having regular meetings with good attendance, creating a much more friendly feeling in the profession, and also reported that the Public Boards of Health and the public in general are all taking an active interest in the welfare of our profession, and acknowledge the vast good that we are doing for the prevention of the spread of contagious diseases of our domestic animals, and the important part that the profession is taking in preventing and stamping out diseases of animals that affect the human health by way of communicating the disease through the consumption of affected, diseased meats and milk, and the great danger arising from such a condition of our public dairies and abattoirs. It shows that the public are rapidly becoming educated and aware that for their own protection and their good health it is necessary that qualified and competent veterinarians be appointed to places of trust and importance on all our health boards, cattle and dairy commissions, and in fact on all boards and committees whose duties are to investigate and regulate the public health through food and food-products, and that the veterinarian be more often consulted by the Public Health Board and private owners of animals in relation to contagious diseases, etc.; that it is evident that the great factor of the coming veterinarian would be to

prevent disease rather than to cure. Several of the secretaries of the different county societies reported fully on the recent investigation of tuberculosis by State authorities in this State. This brought out a long and interesting discussion on the manner of investigation, the great good it was doing, and the future need of a general investigation being taken charge of by the National Government under the jurisdiction of the Bureau of Animal Industry, the systematic inspection, examination, and testing by tuberculin of every herd of cattle in the State of New York, certificates being issued to the owners certifying to those proven free from tuberculosis. Those showing by careful testing that they are affected with tuberculosis to be promptly condemned, and after an official autopsy being held, the carcass to be cremated. Also to have a law passed compelling all cattle entering into the State of New York from other States, Territories, or foreign countries, to be accompanied with a certificate from the State Board of Health, or other duly authorized bodies, certifying that the said animals had been recently tested with tuberculin and were found free from tuberculosis. Also to have all cattle which are used for milk-producing purposes, or the milk of which was used for public consumption, regularly examined by a competent veterinarian with the tuberculin test. In this way the people of the State of New York would be positive that every quart of milk offered for sale or consumed in the Empire State would be free from tubercle bacilli.

It was moved by Dr. Baker and seconded by Dr. Morrow, that the reports of the several county secretaries be accepted and that they continue as secretaries of their respective counties, and report at the next meeting. Carried unanimously.

Miscellaneous business. Under this head the question arose as to delinquent members who were back in their dues to the Society and who showed no inclination either to pay or to attend the meetings. This was brought before the members for their consideration and action by the Secretary, Dr. Hinkley. After quite a discussion by all the members present, the President, Dr. Huidekoper suggested that delinquent members be dealt with according to the by-laws governing this matter.

It was moved by Dr. Wende and seconded by Dr. Cowie, that the Secretary be instructed to write all members in arrears for all dues, assessments, and initiation fees, calling their attention to the by-laws governing this matter, and to furnish a list of all members who were still in arrears, and that the Society then and there suspend them. Carried unanimously.

The Secretary then read several letters and telegrams of regret from several members who were unavoidably absent and who were unable to attend this meeting. They were from Prof. James Law, Dr. Nodyne, Dr. Burns, and others.

Dr. E. J. McLeod moved, and it was seconded by Dr. Wende, that the meeting adjourn until 10 A.M., September 13th; carried.

Second Day, *Thursday, September* 13, 1894.

The meeting was called to order at 10 A.M., President Dr. R. S. Huidekoper in the chair. The following gentlemen answered to their respective names: Drs. John A. Bell, W. L. Baker, James Carnrite, Charles Cowie, W. H. Carpenter, N. P. Hinkley, E. D. Hayden, R. S. Huidekoper, E. B. Ingalls, Claude D. Morris, William Machan, John Wende, R. D. Austin, F. Morrow, W. J. Wadsworth, V. L. James, E. J. McLeod, Thomas Giffin, J.

W. Darby, William H. Kelly, J. M. Currie, A. G. Wicks, Arthur O'Shea, J. H. Huhne.

The minutes of the meeting of the previous day were read by the Secretary and a motion was made by Dr. Morrow, seconded by Dr. James, that they be accepted; carried.

It was moved by Dr. Morris, and seconded by Dr. Baker, that, inasmuch as the reading of the papers was the next event in the order of business, that all the papers be read by their authors before any discussion, and after the reading of all the papers the discussion of the papers be taken in turn as they were read; carried.

The President now called on Dr. Claude D. Morris to read his paper on "Meat Inspection."[1]

At the conclusion of the reading of Dr. Morris's paper, which was listened to with very great interest, and was received with applause, the President asked for the reading of Professor Liautard's paper, "Veterinary Education in Relation to the Practice of Veterinary Medicine in New York State." On account of the unavoidable absence of Professor Liautard, the Secretary, Dr. N. P. Hinkley, was requested by the President to read the Professor's paper.

At the conclusion of the reading of Professor Liautard's paper, which was well received, as was shown by the frequent applause as the Secretary read the paper, and on account of the absence of the other essayists, Dr. Berns, Dr. Nodyne, Dr. Chase, and Prof. James Law, and of the very great importance of the subject of the two papers before the meeting now for discussion, it was suggested by the President that the discussion take place in the afternoon session.

It was therefore moved by Dr. Carnrite, and seconded by Dr. Austen, that the meeting adjourn until 2 P.M.

Afternoon Session.

The meeting was called to order by the President, Dr. R. S. Huidekoper, at 2 P.M. sharp, with a full attendance of all the members who were present at the morning session. The President remarked that the discussion of Dr. Claude D. Morris' paper on "Meat Inspection" was now in order. A most animated and interesting discussion followed, which was taken part in by every member in the room, and it was evident by the discussion that followed that the subject that Dr. Morris had chosen was one that had been interesting to all the members of our profession. It showed that Dr. Morris had lost none of his past ability to ably write and defend a paper before a body of veterinarians, which not only proved interesting, but also highly instructive.

The discussion of Professor Liautard's paper was next in order, and was so announced by the President, and almost immediately several of the members present were on their feet at once, asking for recognition from the President. It was evident that the Professor had written on a subject that was not only interesting to his listeners, but was a matter of great importance to the future of the veterinary profession in this State. It was apparent by the long and lively discussion that followed that the Professor's excellent paper,

[1] Printed in this number.

in which he stated so many facts in regard to the past history of veterinary education in the State of New York, and the laborious work and the many difficulties and the enormous responsibility which rested on the shoulders of the organizers of the veterinary schools in this State of over a quarter of a century ago, showed the Professor not only to be a pioneer of veterinary education, but also, from his past history and records, showed him to be one of the most earnest, honest, and energetic workers in behalf and for the good, promotion, and elevation of the veterinary profession in this State. The Professor's paper found many supporters among the members who took part in the discussion, and argued that it was well to go slow and careful with the proposed veterinary legislation, and not to enact any law that would injure and retard the good work in veterinary education that is being done yearly by some of our recognized veterinary schools in this State.

Dr. Cowie said that it would give him much pleasure to make a motion that Professor Liautard and Dr. Claude D. Morris be given a vote of thanks for their two very excellent papers, both of whose subjects were of so much importance, not alone to the veterinary profession, but to the public at large in this State.

This was seconded by Dr. Baker and carried unanimously.

Unfinished business. Under this head Dr. Baker offered the following resolution: Inasmuch as certain members of our Society have notified and promised the Secretary of this Society that they would write, read, and defend certain essays on their chosen subjects at this annual meeting to be held at Albany, N. Y., September 12 and 13, 1894, the failure of said members to either attend, send papers, or excuses to the Secretary, stating why they could not attend the meeting, and by such flagrant neglect have caused an annoyance to the attending members of the Society; be it

Resolved, That members having essays to read be earnestly requested either to be present to read and defend their papers or send said papers or a written notice of their inability to do so, and not subject the members of the Society to the above-mentioned annoyance and delay.

Dr. Baker's resolution was unanimously adopted. Moved by Dr. Morrow and seconded by Dr. Baker that the proprietors of the Delavan House be given a vote of thanks for the courteous and kind treatment to the members of the Society, and for the gratuitous donation of their assembly parlors to the Society This was carried unanimously and the Secretary directed to convey the expressions of the Society to the proprietors.

Place of meeting. This being the next order of business, after a very spirited discussion, in which several of the members proposed Rochester, Syracuse, Buffalo, Troy, Elmira, and New York City, it was placed before the Society in the form of a vote, and the members in favor of New York City were in the majority. The result was 20 for New York City and 2 for Syracuse.

The President appointed Drs. Hinkley, Wende, Baker, and Machan as delegates to the United States Veterinary Society meeting. As there was no more business before the meeting, Dr. James made a motion, which was seconded by Dr. Hayden, that the meeting adjourn to meet again in New York City in the month of September, 1895. Date and place of meeting were left to the discretion of the Secretary and President in conformity to the by-laws governing this matter. Adjourned.

NELSON P. HINKLEY,
Secretary.

MASSACHUSETTS VETERINARY ASSOCIATION.

THE regular monthly meeting was held at 19 Boylston Place, on Wednesday, November 28, 1894, at 7.30 P.M.

The members present were Drs. Becket, Blackwood, Burr, Howard, Labau, Marshall, Osgood, Paige, Parker, Peters, Rogers, Winchester, Winslow, Lewis, and Stickney. The President, Dr. Burr, occupied the chair.

The minutes of the last meeting having been read and adopted, the resignation of Dr. Lee was considered. Dr. Parker moved that his resignation be accepted; seconded by Dr. Winchester; carried.

The report of the Committee on Tuberculosis was then presented by the Secretary. The sections were taken up one by one and considered, and finally the report was adopted. The report is as follows:

"Realizing the importance of preventing the extension and continuance of bovine tuberculosis among our dairy herds, the Massachusetts Veterinary Association has prepared the following brochure in the hope that it may assist in spreading information on the prevention and eradicatlon of this disease.

"In referring to tuberculosis the following questions are often asked by stock owners: First, how shall the occurrence of tuberculosis be prevented in a healthy herd; and second, how shall tuberculosis be eradicated from a herd that is already diseased.

"In considering these questions it should be borne in mind that while it is a fact that, no matter how unhealthy the surroundings, bovine tuberculosis cannot exist without the presence of the bacillus, yet it is equally a fact that the germ requires a suitable soil for its development, and that a favorable condition of the body for the development of tuberculosis frequently rseults from hereditary predisposition, unsanitary surroundings, and the injudicious management to which dairy cattle are so often subjected. It follows, then, that anything that tends to undermine the health of dairy stock should be avoided and a continual effort made to strengthen and build up the constitution of the dairy cow.

"The following recommendations are made to stock owners to prevent the occurrence of tuberculosis in a healthy herd:

"1. As far as possible owners should raise their own stock and endeavor to improve the constitution of the herd by breeding only from animals that are strong constitutionally and known to be free from any tuberculous taint.

"2. When practicable, all farmers should own a bull. They should restrict its use to their own cows and not allow it to come in contact with other stock.

"3. Allow no strange animal to come in contact with the herd without first making sure by tuberculin test (which is now recognized to be the only practical method of diagnosis) that it is free from disease.

"4. Never buy from infected or suspicious herds.

"5 Never purchase a cow with a cough or abnormal breathing, lumpy or diseased udder, swollen joints, or with a tendency to scour or bloat.

"6. Overcrowding in barns should be avoided. Provide as much air space as possible, allowing at least 1000 cubic feet for each animal.

"7. Pure air and abundant sunlight are essential to the preservation of health in animals. Windows hinged at the bottom and dropped slightly

inward at the top may be utilized for light and ventilation. In this way the air is directed upward, thereby preventing a current of cold air on the cattle.

"8. In fair weather cattle should be in the open air as much as possible.

"9. All barns should be kept as clean as possible, they should be sprinkled before bring swept, and in consequence of the irritating and infectious character of the dust of stables in which tuberculous animals have been kept, sweeping should always be done while the cattle are in the yard.

"10. In consequence of the danger to cattle from consumptives expectorating in and around the barns, no consumptive person should be allowed to have charge or come in contact with dairy cattle.

"11. Do not keep manure in the cellar. Better have no cellar; but where one exists, it should be well drained, well lighted, and well ventilated.

"12. Manure should be frequently removed from the neighborhood of barns.

"13. The barnyard and its surroundings should be well drained and free from standing water and filth.

"14. Early breeding, late and continuous breeding, as well as excessive and injudicious feeding and milking, are all frequent predisposing causes, and should be avoided.

"With reference to the eradication of the disease in herds already affected, it is recommended that a thorough examination of the herd be made, using tuberculin test. All animals found diseased should be slaughtered and the remaining animals retested at intervals. The thorough disinfection and renovation of all infected barns is imperative, and good drainage, light, and ventitation should be secured. Where these conditions cannot be obtained, it would in many cases be more economical and satisfactory to build new stables, always observing the recommendations suggested for healthy herds."

Dr. Winchester moved that the report be published in the agricultural weeklies and other papers throughout the State, and that copies be sent to Secretary Sessions for distribution; seconded by Dr. Osgood, and carried.

Dr. Winchester also moved that a vote of thanks be given the committee for their services covering nearly twelve months. The committee were then discharged with thanks.

The names of Drs. Hamilton and Pope were then voted on, and they were unanimously elected members of the association.

The gift of Messrs. Hemenway and Morgan to Harvard Veterinary College was discussed, and Dr. Peters introduced the following motion: *Whereas*, The Massachusetts Veterinary Association have expressed from time to time their entire disapprobation of the subscription plan as carried on by the Harvard Veterinary School since its inception, *Resolved*, that as the school has been enabled to abolish this system through the kindness of Messrs. Augustus Hemenway and E. D. Morgan, this association expresses its approval of the same as a step in advance, and that we tender our thanks to the friends of the veterinary profession who have subscribed an amount sufficient to provide for the abolishment of this evil. After some further discussion the motion was carried unanimously.

An interesting discussion then arose as to variations in normal temperature and thermometrical readings in using tuberculin. Drs. Peters, Paige, Osgood, Winchester, and others took part. It seemed to be the general opinion that tuberculin should be used only with the greatest caution. Dr. Osgood's

method was to give little hay or food while the readings were being taken; he expressed himself as being more afraid of a rise of temperature after feed, ing than a lowering of temperature after watering.

Before the meeting adjourned Dr. Parker said he thought a committee on legislation should be appointed by the association to look after the interests of the profession, and to report to the association on the proposed legislation the coming winter. The consideration of the matter was postponed till next meeting, and, there being no further business, the meeting adjourned.

JOHN M. PARKER,
Secretary.

VIRGINIA STATE VETERINARY MEDICAL ASSOCIATION.

THE third regular meeting was called to order in the old Bank Building, in Charlottesville, Virginia, January 3, 1895, at 10 o'clock A.M., by the President, Dr. W. H. Harbaugh, of Richmond,

The following members answered at roll-call: Dr. Harbaugh, of Richmond; Dr. T. A. Donaldson, of Richmond; Dr. E. P. Niles, of Blacksburg; Dr. W. T. Gilchrist, of Norfolk; Dr. Geo. C. Faville, Norfolk; Dr. C. P. Dixon, of Charlottesville; Dr. H. Marshall, of Charlottesville; Dr. D. B. Miller, of Charlottesville. Visitors present were Drs. J. E. Miller, of Ironton, Ohio, and C. B. Robinson, of Washington, D. C.

After reading the minutes of the last meeting the report of the Board of Censors was called for, and from them the following were proposed for admission to membership and were elected: Dr. F. P. Williamson, Raleigh, N. C.; Dr. R. D. Garcen, Richmond, Va.; Dr. Chas. McCulloch, Jr., Howardsville, Va.; Dr. Elias S. Walmer, Washington, D. C.; Dr. John E. Miller, Richmond Va; Dr. C. Barnwell Robinson, Washington, D. C.

Dr. Niles, chairman of the Committee on Statistics, while making no report, made a request of the members that they should report to him upon blanks furnished upon cases of interest, especially those bearing upon heredity.

Under the head of new business, Dr. Harbaugh called attention to the following resolutions which was adopted by the U. S. V. M. A. at its last meeting: "*Whereas*, We, the United States Veterinary Medical Association, do condemn the operation of docking horses' tails as an operation of fashion, believing that nature intended them as a defence against insects, etc.; but, so long as it is demanded as an operation of fashion, we believe that it should be performed by skilled veterinarians, who are sure to perform it with greater care and less pain and suffering to the animal, and we cannot unqualifiedly condemn those who perform the operation under such conditions." Dr. Harbaugh could not see the consistency of the resolution, in one part condemning the operation and in the next condoning the operator. Dr. Gilchrist introduced the following resolutions, which were adopted: *Whereas*, The horse's tail is intended by nature as a defence against pestiferous insects, etc., the Virginia State Veterinary Medical Association unqualifiedly condemns the practice of docking tails for mere fashion's sake. There are rare instances when it is necessary to amputate a portion of the tail on account of disease or injury, as it is often necessary to amputate an arm or a leg of a

human being, but the indiscriminate habit of docking tails serves no useful purpose whatever, and entails needless suffering on the part of a helpless dumb brute, not only from the manner in which the operation is usually performed, but also during the remainder of the animal's life from various insects; therefore, be it *Resolved*, That we, the members of the Virginia State Veterinary Medical Association, pronounce the docking-shears an instrument of inhuman contrivance, and consider the habit of docking tails a cruel and barbarous practice. *Resolved*, That we do not consider the unnecessary docking of tails a surgical operation, and members of this Association are justified in refusing to perform it. After an animated discussion of the question the resolution was adopted.

Dr. Adamson, who was appointed to read a paper upon "Rabies," was not present. His paper was read by the Secretary, and elicited considerable discussion, after which the society adjourned to partake of a substantial lunch, a compliment from the members resident in Charlottesville.

Promptly at four o'clock the association reassembled and listened to some very interesting notes by Dr. Niles, which were really a continuation of his paper on "Tuberculosis," read at the August meeting. The recent experiments by Dr. Niles with the use of tuberculin were of great interest to all, and elicited a warm discussion.

Drs. Faville and Gilchrist reported a case of "Encephalitis," which was listened to with interest, after which Dr. Harbaugh, of Richmond, read a very interesting paper upon "Texas Fever," illustrating his points by copious notes of cases which he cited. This paper drew out considerable discussion, particularly because of the difference of opinion expressed as compared with the results of the experiments and conclusions of the Bureau of Animal Industry. Dr. Harbaugh cited many cases which seem to disprove the "tick theory" of the bureau. After a recess taken for supper the association was reconvened in the office of Drs. Marshall and Dixon, and enjoyed a general discussion. Dr. Niles reviewed informally his experience as veterinary inspector for the Virginia State Exposition. From his experience it would seem as though veterinary inspection was not greatly appreciated in the State, and it is doubtful whether any member of the Association would run the risk of similar treatment by undertaking to examine any animals for the Exposition in the future.

After a general discussion upon the needs of advanced education and educational institutions in this country, especially as regards *entrance* and final examinations, the association adjourned to hold its annual meeting at the Agricultural College on the fourth Wednesday in June.

GEO. C. FAVILLE, D.V.M.,
Secretary.

MAINE VETERINARY MEDICAL ASSOCIATION.

THE annual meeting of the Maine Veterinary Medical Association was held at the Cony House, Augusta, January 9, 1895, at 8 P.M., Vice-President Dr. Huntington in the chair. The following members answered the roll-call: Drs. Dwinal, Barnum, Huntington, Joly, Russell, and Choate.

It was voted to present the original bill to the present Legislature, with

slight changes in the amount of fines and imprisonment to be imposed for violation of the same, so as to read, as follows :

Be it enacted by the Senate and House of Representatives in Legislature assembled, as follows :

Section 1. No person shall advertise or hold himself out as a veterinarian or veterinary surgeon unless he is a graduate of a veterinary college or school.

Sec. 2. Any person violating the provisions of the foregoing section shall be punished by a fine of not less than five dollars nor more than fifty dollars, or by imprisonment of not more than three months, or both.

A copy of the above was ordered sent to each of the members, asking them to refer the matter to the Representative from their locality, and urge said Representative to give it his favorable consideration and support.

The Executive Committee reported favorably the names of Drs. F. M. Perry, Houlton and F. E. Freeman, Belfast, for membership in the Association.

In the absence of the chairman of the Committee on Professional Fees, Dr. Choate reported favorably the following schedule of prices, which was adopted :

Single visits	$1.50
More than one visit, each	1.00
Country visits per mile, one way, first mile	1.00
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Per day (expenses and)	10.00
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Tracheotomy	3.00 to 5.00
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Drs. F. M. Perry and F. E. Freeman were elected to membership in this Association.

The election of officers resulted in the election of: *President*, George H. Bailey, D.V.S.; *Vice-President*, F. W. Huntington, D.V.S.; *Secretary*, H. H. Choate, D.V.S.; *Treasurer*, A. Joly, D.V.S.

Dr. Choate presented his report for the past year as Secretary, containing some suggestions, which were favorably considered by the association.

It was voted to append to the present pamphlet of the constitution and by-laws the names of the officers and members, with their addresses, also, the time for holding the meetings.

A motion was carried to have two hundred copies of the schedule of professional fees printed and distributed among the members. The motion was carried to hold the next meeting ar Belfast, April 11, 1895. The meeting then adjourned.

H. H. CHOATE,
Secretary.

It is with pleasure that I call your attention to a short report which we have prepared, and, although very incomplete, will perhaps serve to show the drift of this association during its existence. The year now closing, and

I might say, two years, which mark the period of existence of this Association, have been, on the whole, very gratifying, and, although at no special time have we been very busy, a good deal has been accomplished. About the last of September, 1892, a postal was sent to every veterinarian in the State of Maine, inviting his presence at the Preble House, Portland, for the purpose of forming a State veterinary medical association. Six veterinarians responded, and the initial meeting was held October 11th, of that year. From this time until the time for holding the October meeting in 1893 the Association progressed favorably. We have added to our list of membership at that date four new members, making in all ten. We have also presented to the State Legislature a bill to regulate the practice of veterinary medicine, which I am sorry to say was not very favorably received, and proved quite an expense to the Association. At the October meeting, 1893, the Association met with difficulties, there not being members enough present to form a quorum, and we were obliged to adjourn to meet at Lewiston, January, 1894. Here again we met with defeat, which was repeated in April. Thinking that perhaps we would have better success in Portland, we adjourned to meet there in July. This meeting lacked only one member of a quorum. During this time several schemes were employed to arouse the veterinary profession of this State from its seeming lethargy, and letter copies from the best veterinary medical journals in the country were circulated, calling attention to the importance of organization and union in this work; also, showing the great losses which must be sustained by failing to co-operate with the majority of the profession, and the great mistake in holding aloof from organizations. How far this has been successful I leave you to judge. Our meeting at Waterville, October, 1894, was a perfect success, there being the largest number of veterinarians present of any meeting, but from past experiences the association thought it best to change the number necessary for a quorum from five to three, which we hope will obviate any difficulties of this kind in the future.

At this meeting some very able articles were read and discussed, and we added to our membership three veterinarians, making the whole number to date thirteen, so that we are now represented in every city of any size in the State, except Augusta, Gardiner and Bath. This, with two applications to be acted upon at this meeting, seems very encouraging. Our by-laws, although seeming quite complete, I think would be improved by a slight addition. I would suggest that a list of officers and members with their addresses and dates of holding meetings be appended. All members should sign the constitution and by-laws, according to the import of our creed. We should then have their own signatures as proof of their good faith in joining us. In concluding this report, fellow-members, I wish to thank you all for your kind aid and support during my term of office, for the hearty good-will displayed and the many encouraging words received, all of which I fully appreciate.

H. H. CHOATE,
Secretary.

MARYLAND VETERINARY MEDICAL SOCIETY.

THE annual meeting was held on Tuesday, February 12th, at the Hotel Studio, in Baltimore. There was a good attendance present, and reports of several cases were discussed. Drs. Dougherty, Hoffman, and Clement

reported cases of flatulent colic, requiring the use of the trocar in which the introduction of the canula was followed by the escape of clear fluid, with very little flatus. In each of the cases discussed the animals recovered. A satisfactory explanation of the escape of fluid in such quantities was not arrived at. Dr. Dougherty reported several cases of distention of the guttural pouch, which were relieved by a novel and simple operation, the use of the trocar and canula. Remarkable success had attended this operation in his hands.[1]

Dr. Martinet, of Baltimore, was unanimously reëlected president; Dr. F. H. Macken, of Cecil, vice-president, and Dr. A. W. Clement, of Baltimore, secretary and treasurer.

An enjoyable supper concluded this very interesting meeting.

A. W. CLEMENT,
Secretary.

MICHIGAN STATE VETERINARY MEDICAL ASSOCIATION.

THE thirteenth annual meeting of the Michigan State Veterinary Medical Association was held in the parlors of the Hudson House, Lansing, Mich., February 5, 1895. The meeting was called to order at 1.30 P.M., the President, Dr. J. C. Whitney, of Hillsdale, in the chair.

Secretary Jopling called the roll, and the following answered to the call: Drs. J. Hawkins, Detroit; D. Cummings, Port Huron; J. A. Dell, Ann Arbor; S. Brenton, Detroit; E. A. A. Grange, Lansing; J. W. Ferguson, Bay City; B. C. McBeth, Battle Creek; J. C. Whitney, Hillsdale; Wm. Jopling, Owosso; Geo. C. Moody, Mason; W. W. Thorburn, Lansing; J. J. Jay, Detroit; A. Campbell, Jackson; James Drury, Lansing; W. M. Burdick, Chesaning; H. M. Gohn, St. Johns; J. D. Rutherford, Detroit; and A. McKercher, Lansing.

The minutes of the last meeting were read and approved.

President J. C. Whitney delivered a short address of welcome in which he thanked the Association for the honor conferred upon him in electing him President, and also made some timely suggestions for the welfare of the Association. His remarks were encouraging for the prosperity of the Association, and he called special attention to the necessity of members showing greater willingness to furnish essays and papers for the meetings in the future than had been evidenced in the past.

The following applications for membership were filed: J. D. Rutherford, M.D., V.S., Detroit; Ontario Veterinary College. Vouchers: S. Brenton and W. A. Giffen. Wallace McQueen, V.S., Oxford; Ontario Veterinary College. Vouchers: L. D. LeGear and H. M. Gohn. After proper examination they were duly elected to membership.

The Secretary's annual report showed that there were about sixty members enrolled and that the affairs of the Association were in a satisfactory condition.

The question of legislation caused considerable debate—some favoring presenting a bill to the Legislature now in session at Lansing, while others

[1] This paper will appear in the March number.

thought action had better be deferred until such time as all districts and localities in the State were better supplied with qualified veterinarians than is the case at present. The latter opinion prevailed, and action was deferred at the present time.

During the evening session Prof. E. A. A. Grange, State Veterinarian, entertained the Association in a very pleasant and profitable way on various subjects, including a talk on "Parasitic Diseases Attacking Sheep in Michigan." He presented several specimens of parasites to illustrate, in a more practical way, his discourse. He also gave some new ideas in regard to dislocation of the patella, and finally closed with a talk on "Tuberculosis," giving his experience with tuberculin as an aid in the diagnosis of tuberculosis. Dr. LeGear, who was to read a paper on "Tuberculosis" was detained at home by illness.

A general discussion followed Professor Grange's talk, and much useful information was the result.

Dr. J. A. Dell, of Ann Arbor, read the report for the Committee on Intelligence and Education.

Dr. Grange, Chairman of the Committee on Diseases, stated that the State was very free from contagious diseases at present, and had been for the past year.

Communications were received and read from Dr. W. Horace Hoskins, President United States Veterinary Medical Association, wishing the Association a successful and prosperous meeting, and asking about a resolution passed by the Michigan Association at its last meeting forbidding members of the Association to deliver lectures to any organized body of masters or journeymen horseshoers; and from J. C. Buckley, Detroit, Mich., President of the Horseshoers' National Protective Association, calling attention to their organization, stating its objects, and asking the good will of the veterinarians of the State in their behalf.

Action was taken by the Association whereby an effort will be made to have an objectionable clause removed from the Code of Ethics.

Election of officers resulted as follows: *President*, George C. Moody, Mason; *Vice-Presidents*, A. Campbell, Jackson; W. W. Thorburn, Lansing; H. M. Gohn, St. Johns; *Secretary and Treasurer*, Wm. Jopling, Owosso. *Directors:* J. D. Rutherford, Detroit; J. J. Jay, Detroit; C. W. Stowe, Saginaw; Jas. Drury, Lansing; J. W. Ferguson, Bay City; D. Cummings, Port Huron. Committee on Intelligence and Education, J. D. Rutherford, D. Cummings, H. M. Gohn. Committee on Diseases, E. A. A. Grange, J. Hawkins, J. A. Dell. Committee on Finance, A. Campbell, Jas. Drury, W. W. Thorburn.

A committee, consisting of Drs. Rutherford and S. Brenton, was appointed to draft suitable resolutions on the death of the late Dr. R. E. Reycraft, of Detroit.

Meeting adjourned at 1.30 A.M.

WM. JOPLING,
Secretary.

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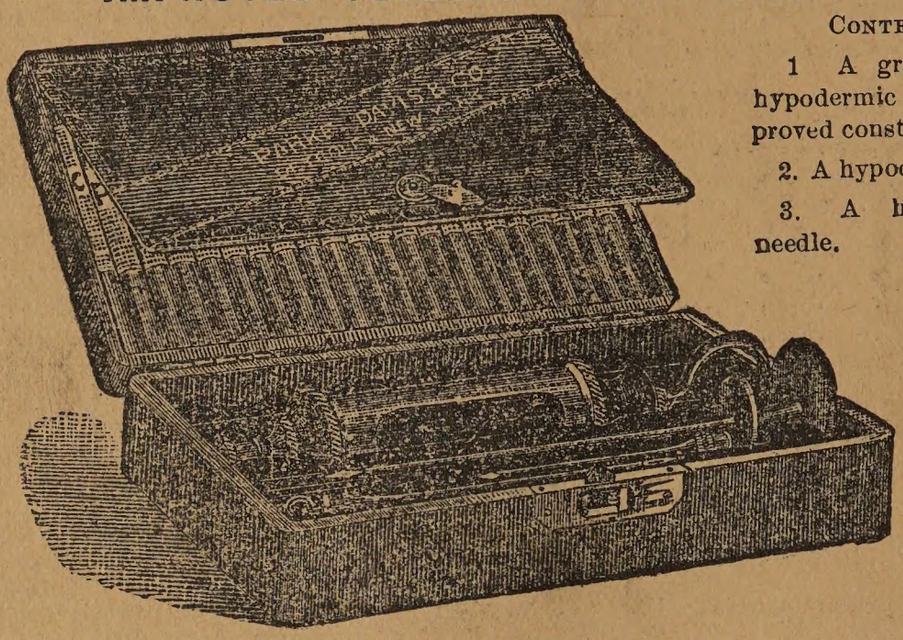

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WITCH HAZEL AND CHAULMOOGRA OIL.

The distilled extract of witch hazel has long been known to be a valuable remedy applied locally for relieving pain and subduing inflammation in wounds and contusions. Our product will be found of uniform strength and purity.

Chaulmoogra Oil is very largely used abroad for local application in stiffness, lameness and to prevent the development of these conditions after severe muscular exertion, as in hunting or racing.

Complete descriptive circulars and any desired information regarding our products promptly furnished on application.

PARKE, DAVIS & CO., Manufacturing Chemists, Detroit, Mich.